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ABSTRACT

This competency-based module uses the Ocean County (New Jersey) Vocational-Technical Schools curriculum-infused model for infusing basic skills instruction into vocational education. The model demonstrates the relationship of vocational skills to communication, mathematics, and science. The document begins with a philosophy statement; preface; a table that explains the number of hours required for academic credit in various programs and the number of those hours that are devoted to basic skills and vocational activities; matrices that show in which courses specific basic skills are taught; a list of objectives; and an explanation of student activities. The rest of the document consists of matrices that describe the relationship of vocational skills to basic skills within the cosmetology/hairstyling program. These pages are organized by instructional unit and the topics within them. For each topic and associated task(s) are listed the theories and the communication, math, and science skills covered. Also listed are the expected student outcomes. The 36 units are: orientation; hygiene and grooming; visual poise; personality development; professional ethics; bacteriology; sterilization and sanitation; draping; shampooing; scalp and hair care; hair shaping; finger wave; wigs; hairstyling; permanent waving; hair coloring; hair lightening; chemical hair relaxing; thermal hair straightening; thermal waving, curling, and blow-dry styling; manicuring; the nail and disorders of the nail; theory of massage; facials; makeup; false eyelashes; hair removal; cells; the skin and disorders of the skin; anatomy; electricity and light therapy; chemistry; salon management; the hair and disorders of the scalp and hair; honing and stropping; and shaving. (KC)

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Competency Based Vocational Curricula

COM-LINK

With Basic Skills And Academic Linkages

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In Cooperation With The

New Jersey State Department of Education

Division of Vocational Education

And

Ocean County Vocational-Technical School

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Ocean County Vocational-Technical School

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PHILOSOPHY OF EDUCATION

The Ocean County Vocational-Technical Education Program should consist of those courses, activities and experiences which are designed to prepare students for a successful entrance in a given field of work. The program should be based upon an analysis of the worker needs of the field of work, the opportunities and requirements for entrance, and the particular characteristics and needs of the students.

We believe that:

The school should educate and train the students to live effectively in our ever-changing world.

The school should provide, for each student, intensive training toward general and specific job objectives, and setting standards of performance in keeping with the requirements of that particular field of work.

All students should evidence the interest, aptitude, and ability to profit from the specialized instruction, and this should be a condition of entrance into or continuance in a given field of work.

Equal attention should be given in the school program to develop sound character, good citizenship, ability to think critically, and maintain good mental and physical health.

The school must be constantly striving to fulfill its ultimate purpose; that of serving the students and the community. The school should give careful consideration to the needs, interests, and capacities of the students and the educational and technical background, experience, training, and professional interest of the professional staff as they develop a working philosophy of education.

PREFACE

The curriculum format employed by this project is competency based and utilizes the Ocean County Vocational-Technical Schools' curriculum infused model for the teaching of basic skills as part of vocational education. The design demonstrates the relationship of vocationally related skills to communication, mathematics and science knowledge. Proficiences with regard to student outcomes cannot be achieved without mastery in related academic areas. All student outcome objectives are predicated upon entry level skills which reflect the dictates of the job marketplace and industry. In addition, basic skills matrices developed by the district are included. The totality of this package is designed to facilitate the vocational teaching process and to enchance the learning experiences of our students.

POTENTIAL OPPORTUNITY FOR AWARDING ACADEMIC CREDITS FOR STUDENTS AT OCEAN COUNTY VOCATIONAL-TECHNICAL SCHOOL

450 hours - 1 year course at O.C.V.T.S.
900 hours - 2 year course at O.C.V.T.S.
1000 hours - 2 year Beauty Culture course

120 hours per year needed for 5 credits
60 hours per year needed for 2½ credits

COURSE	TOTAL HOURS	HOURS SPENT ON COMMUNICATION SKILLS	HOURS SPENT ON COMPUTATION SKILLS	HOURS SPENT ON SCIENCE	TIME ON OCCUPATIONAL ACTIVITIES IN CLASS OR SHOP
AIR CONDITIONING, REFRIGERATION AND HEATING	900	140	120	120	520
AUTO BODY REPAIR	900	130	120	125	525
AUTOMOTIVE MECHANICS	900	150	120	120	510
AUTOMOTIVE AND DIESEL ENGINE REBUILDING	900	216	126	125	433
BEAUTY CULTURE I AND II	1000	240	120	130	515
BUILDING TRADES	900	135	120	130	515
BUSINESS RELATIONS - MEDIA/MODELING	450	200	60	40	150
CHILD CARE AIDE	900	240	120	122	418
COMMERCIAL ART AND PRINTING	900	120	215	75	580
COMMERCIAL BUILDING CONSTRUCTION (MASONRY)	900	130	125	130	515

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120 hours per year needed for 5 credits
60 hours per year needed for 2½ credits

COURSE	TOTAL HOURS	HOURS SPENT ON COMMUNICATION SKILLS	HOURS SPENT ON COMPUTATION SKILLS	HOURS SPENT ON SCIENCE	TIME ON OCCUPATIONAL ACTIVITIES IN CLASS OR SHOP
COMMERCIAL PHOTOGRAPHY & TELEVISION PRODUCTION	900	150	125	80	545
CUSTOM CABINETMAKING	900	130	120	60	590
DENTAL ASSISTING	450	168	65	77	140
DESIGN DRAFTING	900	135	150	165	450
ELECTRICAL TRADES	900	106	120	124	550
FASHION MERCHANDISING	450	200	60	40	150
FOOD SERVICES	900	206	132	125	437
INDUSTRIAL AUTOMATION AND ELECTRONICS	900	129	140	132	499
INTERIOR DESIGN	900	210	130	120	440
LANDSCAPING AND GREENHOUSE TECHNOLOGY	900	125	125	175	475

POTENTIAL OPPORTUNITY FOR AWARDING ACADEMIC CREDITS FOR STUDENTS AT OCEAN COUNTY VOCATIONAL-TECHNICAL SCHOOL

450 hours - 1 year course at O.C.V.T.S.
900 hours - 2 year course at O.C.V.T.S.
1000 hours - 2 year Beauty Culture course

120 hours per year needed for 5 credits
60 hours per year needed for 2½ credits

COURSE	TOTAL HOURS	HOURS SPENT ON COMMUNICATION SKILLS	HOURS SPENT ON COMPUTATION SKILLS	HOURS SPENT ON SCIENCE	TIME ON OCCUPATIONAL ACTIVITIES IN CLASS OR SHOP
MARINE ENGINE AND BOAT SERVICES	900	164	120	125	491
MEDICAL OFFICE RECEPTIONIST/ASSISTANT	450	173	60	77	140
MEDICAL SKILLS AND RELATED HEALTH CAREERS	450	135	65	125	125
MEDICAL SKILLS (ADVANCED)	450	125	60	125	140
PLUMBING AND HEATING	900	140	120	120	520
RECREATIONAL VEHICLE MAINTENANCE AND REPAIR	900	125	130	60	585
T.V. AND COMPUTER REPAIR	900	125	150	175	450
WELDING	900	135	120	100	545

COMMUNICATION SKILLS

Listed below are all courses offered at the Ocean County Vocational-Technical School. The asterisk indicates that the topic is studied in that curriculum.

COURSE	Functional Reading Skills	Vocabulary	Identifying Main Ideas	Meanings in Context	Inferences	Fact/Opinion Distinction	Signal Words	Parts of Text-book/Manual	Following Directions	Outlining and Note Taking	Interpretation of Maps, Graphs and Charts	Interpretation of Diagrams	Test Taking Skills	Expository Writing Skills	Problem Solving	Spelling	Oral Communications	Study Skills	Resume Writing	Job Application Skills
AIR CONDITIONING, REFRIGERATION AND HEATING	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
AUTO BODY REPAIR	*	*		*	*	*	*		*	*	*	*	*	*	*	*	*	*	*	*
AUTOMOTIVE MECHANICS	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
AUTOMOTIVE AND DIESEL ENGINE REBUILDING	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
BEAUTY CULTURE I AND II	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
BUILDING TRADES	*	*		*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
BUSINESS RELATIONS - MEDIA/MODELING/TRAVEL	*	*	*	*	*	*	*	*	*	*	*	*	*	*		*	*	*	*	*
CHILD CARE AIDE	*	*	*	*	*	*	*		*	*	*	*	*	*	*	*	*	*	*	*
COMMERCIAL ART AND PRINTING CAREERS	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
COMMERCIAL BUILDING CONSTRUCTION (MASONRY)	*	*	*		*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
COMMERCIAL PHOTOGRAPHY AND TELEVISION PRODUCTION	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
CUSTOM CABINETMAKING	*	*		*	*	*	*		*	*	*	*	*	*	*	*	*	*	*	*
DENTAL ASSISTING	*	*	*	*	*	*	*		*	*	*	*	*	*	*	*	*	*	*	*

COMMUNICATION SKILLS - CONTINUED

COURSE	Functional Reading Skills	Vocabulary	Identifying Main Ideas	Meanings in Context	Inferences	Fact/Opinion Distinction	Signal Words	Parts of Text-book/Manual	Following Directions	Outlining and Note Taking	Interpretation of Maps, Graphs and Charts	Interpretation of Diagrams	Test Taking Skills	Expository Writing Skills	Problem Solving	Spelling	Oral Communications	Study Skills	Resume Writing	Job Application Skills
DESIGN DRAFTING	*	*	*		*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
ELECTRICAL TRADES	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
FASHION MERCHANDISING	*	*	*	*	*	*	*		*	*	*	*	*	*	*	*	*	*	*	*
FOOD SERVICES	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
INDUSTRIAL AUTOMATION AND ELECTRONICS	*	*	*		*	*			*	*	*	*	*	*	*	*	*	*	*	*
INTERIOR DESIGN	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
LANDSCAPING AND GREENHOUSE TECHNOLOGY	*	*	*	*	*	*	*		*	*	*	*	*	*	*	*	*	*	*	*
MARINE ENGINE AND BOAT SERVICE	*	*	*		*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
MEDICAL OFFICE RECEPTIONIST/ASSISTANT	*	*	*	*	*	*	*		*	*	*	*	*	*	*	*	*	*	*	*
MEDICAL SKILLS AND RELATED HEALTH CAREERS	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
MEDICAL SKILLS (ADVANCED)	*	*	*	*	*	*	*		*	*	*	*	*	*	*	*	*	*	*	*
PLUMBING AND HEATING	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
RECREATIONAL VEHICLE MAINTENANCE AND REPAIR	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
T.V. AND COMPUTER REPAIR	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
WELDING	*	*	*			*	*	*	*	*	*	*	*	*	*	*	*	*	*	*

MATHEMATICS SKILLS

Listed below are all courses offered at the Ocean County Vocational-Technical School. The asterisk indicates that the topic is studied in that curriculum.

COURSE	Whole Numbers	Common Fractions	Decimals	Percentages	Weights and Measurements	Ratio and Proportion	Powers and Roots	Formulas	Estimating	Geometry	Basic Trigonometric Functions	Graphs
AIR CONDITIONING, REFRIGERATION AND HEATING	*	*	*	*	*	*	*	*	*	*	*	*
AUTO BODY REPAIR	*	*	*	*	*	*	*	*	*	*		*
AUTOMOTIVE MECHANICS	*	*	*	*	*	*	*	*	*			*
AUTOMOTIVE AND DIESEL ENGINE REBUILDING	*	*	*	*	*	*	*	*	*	*		*
BEAUTY CULTURE I AND II	*	*	*	*	*	*	*	*	*	*	*	*
BUILDING TRADES	*	*	*	*	*	*	*	*	*	*	*	*
BUSINESS RELATIONS - MEDIA/MODELING/TRAVEL	*		*	*		*			*			*
CHILD CARE AIDE	*	*	*	*	*	*		*	*	*	*	*
COMMERCIAL ART AND PRINTING CAREERS	*	*	*	*	*	*		*	*	*		*
COMMERCIAL BUILDING CONSTRUCTION (MASONRY)	*	*	*	*	*	*	*	*	*	*	*	*
COMMERCIAL PHOTOGRAPHY AND TELEVISION PRODUCTION	*	*	*	*	*	*	*	*	*	*	*	*
CUSTOM CABINETMAKING	*	*	*	*	*	*	*	*	*	*	*	*
DENTAL ASSISTING	*	*	*	*	*	*		*	*			*

MATHEMATICS SKILLS - CONTINUED

COURSE	Whole Numbers	Common Fractions	Decimals	Percentages	Weights and Measurements	Ratio and Proportion	Powers and Roots	Formulas	Estimating	Geometry	Basic Trigonometric Functions	Graphs
DESIGN DRAFTING	*	*	*	*	*	*		*	*	*	*	*
ELECTRICAL TRADES	*	*	*	*	*	*	*	*	*	*	*	*
FASHION MERCHANDISING	*	*	*	*	*	*		*	*	*		*
FOOD SERVICES	*	*	*	*	*	*		*	*	*		*
INDUSTRIAL AUTOMATION AND ELECTRONICS	*	*	*	*	*	*		*	*	*	*	*
INTERIOR DESIGN	*	*	*	*	*	*		*	*	*		*
LANDSCAPING AND GREENHOUSE TECHNOLOGY	*	*	*	*	*	*		*	*	*	*	*
MARINE ENGINE AND BOAT SERVICE	*	*	*	*	*	*		*			*	*
MEDICAL OFFICE RECEPTIONIST/ASSISTANT	*	*	*	*	*	*	*	*	*	*		*
MEDICAL SKILLS AND RELATED HEALTH CAREERS	*	*	*	*	*	*		*	*	*	*	*
MEDICAL SKILLS (ADVANCED)	*	*	*	*	*	*		*	*	*	*	*
PLUMBING AND HEATING	*	*	*	*	*	*	*	*	*	*	*	*
RECREATIONAL VEHICLE MAINTENANCE AND REPAIR	*	*	*	*	*	*	*	*			*	*
T.V. AND COMPUTER REPAIR	*	*	*	*	*	*	*	*		*	*	*
WELDING	*	*	*	*	*	*		*	*	*	*	*

SCIENCE SKILLS

Listed below are all courses offered at the Ocean County Vocational-Technical School. Those listed as "Not Available" do not offer enough hours to qualify for credits in your high school. However, we have noted the skills covered. Those listed with an asterisk after the title are eligible. The asterisk indicates that the topic is studied in that curriculum.

	HUMAN ANATOMY						ASTRONOMY			CHEMISTRY			PHYSICS					ECOLOGY				
COURSE	Cellular Theory	Skeletal System	Muscles	System of Body	Diseases	Psychology	Solar System	Gravity	Weather	Matter	Chemical Reactions	Applied Chemistry	Light	Magnetism	Heat	Magnetism and Electricity	Nuclear Energy	Botany	Food Production	Fuels	Nutrition	Waste Disposal
AIR CONDITIONING, REFRIGERATION AND HEATING							*	*	*	*	*	*		*	*	*				*	*	
AUTO BODY REPAIR								*	*	*	*	*	*	*	*					*		*
AUTOMOTIVE MECHANICS								*		*	*	*	*	*	*	*				*		
AUTOMOTIVE DIESEL AND ENGINE REBUILDING								*		*	*	*		*	*	*	*			*		*
BEAUTY CULTURE I AND II	*	*	*	*	*	*				*	*	*	*		*	*					*	
BUILDING TRADES							*	*	*	*	*	*	*		*	*		*		*		
BUSINESS RELATIONS - MEDIA/MODELING/TRAVEL	N	* O	* T	* A	V	* A	I	L	A	B	L	E										
CHILD CARE AIDE	*	*	*	*	*	*			*		*	*		*	*			*	*		*	*
COMMERCIAL ART AND PRINTING CAREERS	N	O	T	A	V	A	I	* L	A	* B	* L	* E	*		*	*						*
COMMERCIAL BUILDING CONSTRUCTION (MASONRY)	*	*	*	*	*	*		*	*	*	*	*	*	*	*	*		*		*	*	*
COMMERCIAL PHOTOGRAPHY AND TELEVISION PRODUCTION	N	O	T	A	V	* A	I	* L	A	* B	* L	* E	*		*	*						*
CUSTOM CABINETMAKING	* N	O	T	A	V	A	I	* L	A	* B	* L	* E			*			*				
DENTAL ASSISTING	*	*	*	*	*	*				*	*	*	*								*	*

SCIENCE SKILLS - CONTINUED

	HUMAN ANATOMY						ASTRONOMY			CHEMISTRY			PHYSICS					ECOLOGY				
COURSE	Cellular Theory	Skeletal System	Muscles	System of Body	Diseases	Psychology	Solar System	Gravity	Weather	Matter	Chemical Reactions	Applied Chemistry	Light	Magnetism	Heat	Magnetism and Electricity	Nuclear Energy	Botany	Food Production	Fuels	Nutrition	Waste Disposal
DESIGN DRAFTING							*	*	*	*		*	*		*	*	*			*		*
ELECTRICAL TRADES							*	*	*	*	*		*	*	*	*	*		*			
FASHION MERCHANDISING	*	*	*	*		*		*		*	*	*	*								*	
FOOD SERVICES					*	*		*	*		*	*	*		*				*		*	*
INDUSTRIAL AUTOMATION AND ELECTRONICS								*		*			*	*	*	*	*			*		
INTERIOR DESIGN		*	*			*	*	*	*	*	*	*	*		*	*						
LANDSCAPING AND GREENHOUSE TECHNOLOGY							*	*	*		*	*	*		*	*		*	*	*	*	*
MARINE ENGINE AND BOAT SERVICE								*	*	*	*	*	*	*	*	*		*		*		
MEDICAL OFFICE RECEPTIONIST/ASSISTANT	N	* O	* T	* A	* V	* A	I	L	A	B	* L	E										*
MEDICAL SKILLS AND RELATED HEALTH CAREERS	*	*	*	*	*	*		*		*	*					*			*		*	*
MEDICAL SKILLS (ADVANCED)	*	*	*	*	*	*		*		*	*					*			*		*	*
PLUMBING AND HEATING					*		*	*	*	*	*	*			*	*		*		*		*
RECREATIONAL VEHICLE MAINTENANCE AND REPAIR	N	O	T	A	V	A	I	* L	A	* B	* L	* E	*	*	*	*				*		*
T.V. AND COMPUTER REPAIR										*	*	*	*	*	*	*				*		
WELDING								*		*	*	*	*	*	*	*				*		

COURSE OBJECTIVES

1. To prepare students with entry level skills, abilities and knowledge for employment in the cosmetology/hairstyling field.

2. To present 900 hours of instruction and practice in the cosmetology/hairstyling field in accordance with the course curriculum and skill profile outline.

3. To provide a detailed summary evaluation of the proficiency achieved by each student representing the most important content areas presented in the beauty culture skill profile.

4. To help each student develop positive attitudes and ideals related to their occupation in the cosmetology/hairstyling field and understand their own capabilities and potential.

5. To instill in each student the need to plan for their professional growth through continuous learning in their chosen occupation.

STUDENT ACTIVITIES

All students enrolled in the Ocean County Vocational-Technical School are encouraged to join Vocational Industrial Clubs of America (VICA). Student activities are infused into each program. Each building has a student government and a student activities program separate from VICA. Additionally, students from each center and every class are encouraged to participated in the VICA Leadership and Job Demonstration Contests which begin in the centers and radiate throughout the district as Ocean County Vocational-Technical School inter school winners are chosen.

Student activities emphasize the basic precepts of VICA, as well as the basic tenets of democracy. Within the context, each of our programs teaches the dignity of work, high standards in trade ethics and safety, and a belief in the free enterprise economic system.

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UNIT: ORIENTATION

TOPIC:

TASK	THEORY	COMMUNICATION SKILLS	MATHEMATICS SKILLS	SCIENCE KNOWLEDGE	STUDENT OUTCOME
I. School rules and regulations	A. Student rights and responsibilities B. Student grievance procedures C. Student expectations D. School code of discipline E. Attendance and graduation policy F. Student transfers G. Grading system H. Accidents I. Bedside instruction J. Cooperative Industrial Education (C.I.E.) K. Driving policy L. Drug and alcohol policy M. Early dismissal procedures N. Lockers O. Driver permits P. School closing procedures Q. Smoking R. Student progress reports S. Telephones T. Theft U. Tools and equipment	A. Note taking B. Filling out forms C. Oral communication D. Test taking skills E. Functional reading skills (Student Handbook)			A. The student will know what is expected of him/her for the school year in order to promote effective learning conditions (written test) B. The student will know the standards to be met within the school and classroom (written test)

UNIT: ORIENTATION - CONTINUED

TOPIC:

TASK	THEORY	COMMUNICATION SKILLS	MATHEMATICS SKILLS	SCIENCE KNOWLEDGE	STUDENT OUTCOME
II. Student contract	A. Attendance B. Request for make-up work C. Extra help with assignments or lessons D. Homework assignments E. Requirements for each marking period (practical assignment sheet) F. Notebooks, etc. G. Sketch books H. State mandated hours (1,000) I. Summer school J. Field trips K. Passing test grade (75 - State Board Exam) L. Daily grading system M. Kits N. Lockers O. Student dress code (State requirement) P. Daily cleaning duties Q. Comparison of private schools	A. Note taking B. Filling out forms C. Oral communication D. Test taking skills E. Functional reading skills (Student Contract)			A. The student will know what is expected of him/her for the school year in order to promote effective learning (written test) B. The student will know the standards to be met within the school and classroom (written test

UNIT: ORIENTATION - CONTINUED

TOPIC:

TASK	THEORY	COMMUNICATION SKILLS	MATHEMATICS SKILLS	SCIENCE KNOWLEDGE	STUDENT OUTCOME
III. Safety practices in electricity				A. Use only one plug to each outlet B. Examine cords and plugs regularly C. Receive instruction before using electrical equipment D. To disconnect current, remove plug without pulling on cord E. Avoid wetting electrical cords F. Do not touch any metal while using any electrical apparatus G. Do not handle electrical equipment with wet hands H. Do not leave room when patron is attached to an electrical device I. Do not attempt to clean around an electrical outlet when equipment is plugged in J. In an emergency, turn off the main switch K. The circuit breaker automatically disconnects any current with a defective appliance	The student will be able to use electrical equipment in a safe manner (written and performance test)

UNIT: ORIENTATION - CONTINUED

TOPIC:

TASK	THEORY	COMMUNICATION SKILLS	MATHEMATICS SKILLS	SCIENCE KNOWLEDGE	STUDENT OUTCOME
IV. Career opportunities	A. Beauty salon opportunities				
	1. General cosmetologist and hairstylist				
	2. Specialists				
	a. Permanent wave technician				
	b. Hairstylist (men & women)				
	c. Wig stylist				
	d. Hair straightening technician				
	e. Hair colorist				
	f. Hair and scalp specialist				
	g. Esthetician (skin care)				
	h. Manicurist				
	i. Makeup artist				
	j. Electrologist				
	3. Management				
	a. Salon owner				
	b. Salon manager				
	c. Concessionaire (beauty salon, department store, chain of salons)				
	B. Educational opportunities				
	1. School management				
	a. Owner or director of private school				
	b. Department head in public school				
	c. Supervisor				

UNIT: ORIENTATION - CONTINUED

TOPIC:

TASK	THEORY	COMMUNICATION SKILLS	MATHEMATICS SKILLS	SCIENCE KNOWLEDGE	STUDENT OUTCOME
	2. Teacher - Guidance a. Teacher of cosmetology/hairstyling b. Teacher of related subjects c. Teacher of specialties d. Guidance compellor e. Trainer of teachers 3. Government a. State board member b. State board inspector c. State board examiner 4. Miscellaneous - educational a. Education director for manufacturer b. Guest/platform artist				
	C. Industry and writing opportunities				
	1. Merchandising a. Buyer and assistant buyer b. Salesperson - direct seller 2. Scientific and manufacturing a. Demonstrator or manufacturer's representative b. Researcher - assistant c. Trade technician 3. Writing a. Beauty editor b. Promotional writer c. Free-lance writer				

UNIT: HYGIENE AND GROOMING

TOPIC:

TASK	THEORY	COMMUNICATION SKILLS	MATHEMATICS SKILLS	SCIENCE KNOWLEDGE	STUDENT OUTCOME
	A. Personal hygiene 1. Cleanliness 2. Oral hygiene 3. Posture 4. Exercise 5. Relaxation 6. Adequate sleep 7. Balanced diet 8. Wholesome thoughts B. Public hygiene 1. Pure air 2. Pure food 3. Pure water 4. Adequate sewerage 5. Control of disease 6. Medical facilities C. Beauty/Health problems 1. Sluggish circulation 2. Lack of fresh air 3. Irregular elimination 4. Improper diet 5. Poor health D. Healthy thoughts 1. Mind 2. Body 3. Thoughts 4. Emotions	A. Outlining and note taking B. Writing skills (workbook) C. Test taking skills D. Oral communication E. Vocabulary F. Inferencing G. Spelling		A. Bacteriology 1. Pathogenic 2. Non-pathogenic B. Sterilization 1. State Board laws 2. Physical agents 3. Chemical agents C. The skin and disorders of the skin D. The hair and disorders of the hair E. Anatomy 1. Skeletal system 2. Muscles 3. Systems of body 4. Disease F. Ecology Nutrition	A. Identify the principles of hygiene and good grooming on a written test and oral communication B. Recognize the relationship of cleanliness to good health and success as a cosmetologist on a written test and oral communication

UNIT: VISUAL POISE

TOPIC:

TASK	THEORY	COMMUNICATION SKILLS	MATHEMATICS SKILLS	SCIENCE KNOWLEDGE	STUDENT OUTCOME
	A. Good posture 1. Prevents physical problems 2. Influence on health and appearance 3. Personality B. Correct posture 1. Standing 2. Sitting 3. Lifting 4. Shampooing 5. Stooping C. Care of the feet 1. Shoes 2. Pedicures 3. Massage	A. Outlining and note taking B. Writing skills (workbook) C. Test taking skills D. Vocabulary E. Oral communication F. Inferencing G. Spelling	Geometric Standing at a 45° angle	A. Anatomy 1. Skeletal system 2. Muscles 3. Disease B. Diseases and disorders of the skin 1. Athlete's foot (ringworm of the foot) 2. Onychocryptosis (ingrown nails)	A. The student will know the benefits of good posture on a written test and oral communication B. The student will know the difference between good and bad posture on a written test and oral communication

UNIT: PERSONALITY DEVELOPMENT

TOPIC:

TASK	THEORY	COMMUNICATION SKILLS	MATHEMATICS SKILLS	SCIENCE KNOWLEDGE	STUDENT OUTCOME
	A. Personality 1. Success 2. Outward reflections 3. Inner feelings B. Qualities 1. Attitude 2. Behavior 3. Thoughts 4. Voice 5. Stability 6. Manner 7. Grooming 8. Humor C. Conversational charm 1. Steps to success 2. Topics never to discuss D. Hygiene and grooming	A. Oral communication B. Outlining and note taking C. Writing skills (workbook) D. Test taking skills E. Oral communication F. Inferencing G. Spelling		A. Anatomy 1. Skeletal system 2. Muscles 3. Disease 4. Systems of body B. Ecology Nutrition C. Psychology	The student will know the qualities needed for a pleasing personality and the relationship of personality to success on a written test and oral communication

UNIT: PROFESSIONAL ETHICS

TOPIC:

TASK	THEORY	COMMUNICATION SKILLS	MATHEMATICS SKILLS	SCIENCE KNOWLEDGE	STUDENT OUTCOME
	A. Ethics 1. Employer 2. Patrons 3. Co-workers 4. Conduct B. Attitude C. Success D. State Board rules and regulations E. Hygiene and grooming	A. Outlining and note taking B. Writing skills (workbook) C. Test taking skills D. Oral communication E. Vocabulary F. Inferencing G. Spelling			A. The student will know the proper moral standards on a written test and oral communication B. The student will know how to deal with patrons, co-workers, and employers on a written test and oral communication C. The student will know the New Jersey State Board Regulations on a written test and oral communication

UNIT: BACTERIOLOGY

TOPIC:

TASK	THEORY	COMMUNICATION SKILLS	MATHEMATICS SKILLS	SCIENCE KNOWLEDGE	STUDENT OUTCOME
	A. Sterilization and sanitation B. Personal hygiene C. Skin, hair and nails 1. Diseases 2. Disorders D. State Board rules and regulations	A. Outlining and note taking skills B. Writing skills (workbook) C. Test taking skills D. Vocabulary E. Inferencing F. Pronunciation of terms G. Oral communication H. Spelling		A. Bacteria 1. Micro-organisms 2. Exist anywhere B. Types of bacteria 1. Non-pathogenic 2. Pathogenic C. Classifications of bacteria 1. Cocci a. Staphylococci b. Streptococci c. Diplococci 2. Bacilli 3. Spirilli D. Bacterial growth and reproduction 1. Active stage Vegetative stage 2. Inactive stage Spore-forming stage 3. Movement of bacteria E. Bacterial infections 1. Local 2. General 3. Pus 4. Contagious 5. Prevention 6. Viruses	A. The student will know what bacteria is on a written test and oral communication B. The student will know the types and classifications of bacteria on a written test and oral communication C. The student will know how bacteria reproduces on a written test and oral communication D. The student will know the relationship to bacterial infections and health on a written test and oral communication

UNIT: BACTERIOLOGY - CONTINUED

TOPIC:

TASK	THEORY	COMMUNICATION SKILLS	MATHEMATICS SKILLS	SCIENCE KNOWLEDGE	STUDENT OUTCOME
				7. Parasites a. Plant b. Animal F. Immunity 1. Natural 2. Acquired 3. Disease carrier G. Methods of destroying bacteria 1. Disinfectants 2. Intense heat a. Steaming b. Baking c. Ultra-violet rays	

UNIT: STERILIZATION AND SANITATION

TOPIC:

TASK	THEORY	COMMUNICATION SKILLS	MATHEMATICS SKILLS	SCIENCE KNOWLEDGE	STUDENT OUTCOME
I. Preparation of solutions and sterilizing implements with chemicals	A. Safety precautions 1. Purchase chemicals in small quantities 2. Store chemicals in a cool place 3. Keep all containers labeled and covered 4. Do not smell chemicals, they may irritate membranes of nose 5. Avoid spills 6. Use forceps to insert or remove objects from source of heat 7. Keep a complete first aid kit on hand B. State Board regulations 1. Chemical solutions should be changed regularly 2. All articles should be free of hair before being sanitized 3. Combs and brushes must be sanitized after each patron 4. Shampoo bowls must be santized before and after each use	A. Outlining and note taking skills B. Writing skills (workbook) C. Pronunciation of terms D. Following directions Reading instructions to prepare solutions E. Vocabulary F. Inferencing G. Signal words (chemicals) H. Definitions I. Oral communication J. Test taking skills K. Spelling	A. Weight and volume Preparation of solutions B. Ratio, proportion, and percentage 1. Preparation of solutions 2. Sanitizing solutions 3. Concentrated solutions	A. Sterilization 1. Destruction of bacteria 2. Types of bacteria B. Definitions pertaining to sanitation C. Methods of sterilization and sanitation 1. Physical agents a. Moist heat b. Dry heat c. Ultra-violet rays 2. Chemical agents a. Antiseptics b. Disinfectants c. Vapors D. Disinfectants 1. Quaternary ammonium compounds 2. Formalin 3. Ethyl or grain alsohol 4. Resol (Lysol) E. Antiseptics 1. Boric acid 2. Tincture of iodine 3. Hydrogen peroxide 4. Grain alcohol 5. Formalin 6. Chloramine-T 7. Sodium hypochlorite	A. The student will know the difference between sterilization and sanitation on a written test and oral communication B. The student will know the various methods of sterilization on a written test and oral communication C. The student will be able to prepare solutions D. The student will know how to prevent the spread of disease on a written test and oral communication E. The student will know why good sanitation practices are necessary in a salon on a written test and oral communication

UNIT: STERILIZATION AND SANITATION - CONTINUED

TOPIC:

TASK	THEORY	COMMUNICATION SKILLS	MATHEMATICS SKILLS	SCIENCE KNOWLEDGE	STUDENT OUTCOME
	5. Sanitize electrical appliances by rubbing surface with a cotton pad dampened with 70% alcohol 6. All cups, finger bowls, or similar objects must be sanitized prior to being used for another patron			F. Public sanitation 1. Government agencies 2. Ventilated salons 3. Infectious diseases 4. State Board regulations 5. Wholesome food 6. Water supply 7. Disposal of refuse 8. Regulated salon temperatures 9. Operators with colds or infectious diseases may not serve patrons 10. Patrons with infectious diseases may not be accommodated in a salon	

UNIT: DRAPING

TOPIC:

TASK	THEORY	COMMUNICATION SKILLS	MATHEMATICS SKILLS	SCIENCE KNOWLEDGE	STUDENT OUTCOME
I. Draping the patron with towels and a cape	A. Protection of the patron 1. Provide comfort for the patron 2. Protect patron's clothing from chemicals and cosmetics 3. Protect patron from injury 4. Provide professional services B. State Board regulations Neck strip or towel between cape and patron C. Draping for dry services 1. Follow basic preparation 2. Replace towel with neck strip D. Draping for a comb-out 1. Same procedure as for dry services 2. Only difference is a shorter cape that fastens in the front	A. Outlining and note taking B. Writing skills (workbook) C. Oral communications D. Inferencing E. Test taking skills F. Spelling			A. The student will know how to drape a patron properly and safely for dry and wet services on a written and performance test

UNIT: DRAPING - CONTINUED

TOPIC:

TASK	THEORY	COMMUNICATION SKILLS	MATHEMATICS SKILLS	SCIENCE KNOWLEDGE	STUDENT OUTCOME
	E. Draping for wet and chemical services 1. Follow basic draping procedure 2. Take necessary precautions to protect patron F. Safety Use cotton or linen capes when giving thermal services - plastic capes will create a fire hazard				

UNIT: SHAMPOOING

TOPIC:

TASK	THEORY	COMMUNICATION SKILLS	MATHEMATICS SKILLS	SCIENCE KNOWLEDGE	STUDENT OUTCOME
I. Drape the patron for a shampoo II. Hair brushing III. Test water temperature and wet hair IV. Apply shampoo and manipulate the scalp V. Rinse and towel dry the hair VI. Comb hair to remove tangles	A. Purpose of scalp and hair hygiene care 1. Relaxing 2. Remove dirt, oils, cosmetics and skin debris from scalp and hair shaft 3. Uncleanliness of scalp and hair is a breeding place for disease-producing bacteria 4. Avoid scalp disorders 5. Increase blood circulation and promote healthy skin and hair B. Related bacteriology C. Related chemistry 1. Composition of water 2. Composition of shampoos	A. Outlining and note taking B. Writing skills (workbook) C. Following directions - reading instructions to prepare concentrated shampoos, rinses, and conditions D. Vocabulary E. Fact - opinion distinction Advertising PH level of shampoos and hair rinses F. Signal words G. Oral communication H. Inferencing I. Test taking skills J. Spelling	Ratio, proportion and and percentage 1. Preparation of rinses, shampoos and conditioners 2. Composition of water, shampoos and rinses	A. Bacteriology 1. Growth conditions 2. Skin diseases and disorders B. Composition of water 1. Hydrogen and oxygen (H_2O - two atoms of hydrogen and one atom of oxygen) 2. Soft water or rain water has been chemically softened, contains very small amount of minerals and lathers freely 3. Hard water contains certain minerals and does not produce a good lather 4. Distilled water used as a non-conductor of electricity 5. Water containing certain minerals is a conductor of electricity 6. Removing impurities from water a. Filtration - passing water through a porous substance, such as filter paper or charcoal	A. The student will know the reasons for care of the hair and scalp, the methods used, the various products available and be able to identify the purpose of each on a written test and oral communication B. The student will be able to demonstrate the procedure for shampooing and scalp manipulations during a performance test

UNIT: SHAMPOOING - CONTINUED

TOPIC:

SCIENCE KNOWLEDGE - CONTINUED

  b. Distillation - heating water in a closed vessel arranged so that the resulting vapor passes off through a tube and is cooled and condensed to a liquid - this process purifies water used in the manufacture of cosmetics
  c. Boiling water at a temperature of 212° Fahrenheit (100° Celsius) will destroy most microbic life
  d. Testing for soft water (see formula in Milady textbook, page 437)

C. Shampoo molecules

  1. Large molecules specially treated and composed of a head and a tail
  2. Head - attraction for water not dirt
  3. Tail - attraction for dirt, grease debris, but not for water
  4. Head and tail as a team do an effective job of cleansing

D. Composition of shampoos

  1. Combination of alkali with an oil or fat
  2. Oils used
    a. Almond
    b. Peanut
    c. Coconut
    d. Olive
    e. Castor
    f. Palm nut
  3. Fat used
    a. Animal fat
    b. Lanolin
    c. Tallow
    d. Synthetic compounds
  4. Most shampoos contain varying amounts of the same fatty acids
  5. Shampoos with a high pH factor (high alkaline) are very damaging to all types of hair

E. Types of wet shampoos

  1. Soap shampoos
  2. Soapless shampoos (foaming or foamless)
  3. Cream or paste shampoos

UNIT: SHAMPOOING - CONTINUED

TOPIC:

SCIENCE KNOWLEDGE - CONTINUED

F. Soap shampoos

1. Form of cake, powder, gel or liquid
2. Cleansing agent is a soap made from olive oil, coconut oil, or other oils
3. Liquid soaps contain more than 50% water
4. An alkaline reaction will be produced when used on the hair
5. When used with hard water, soap will not lather and tend to produce an insoluble soap residue on the hair

G. Soapless shampoos

1. Form of a powder, gel, cream, or liquid
2. Main ingredient is sulfonated oil
3. Lathering and non-lathering types
4. Effective in soft, hard, cold, or hot water
5. Frequent applications dry the hair and scalp

H. Cream or paste shampoos

1. Cleansing action due to soap, a synthetic detergent or a combination of both
2. May sometimes contain a reconditioning agent for hair
3. Usually acid in reaction

I. Plain shampoo

1. Usually clear and transparent and may have a natural amber shade or colored a greenish yellow
2. May contain plain liquid soap or a detergent-based product
3. Seldom contain lanolin or other agents used to produce a gloss on the hair
4. An acid rinse should be used to counteract its alkaline reaction on the hair
5. Do not use on lightened, toned, tinted, or damaged hair

J. Acid-balanced shampoos

1. Non-strip type
2. Acid in nature, with pH of about 5.5

K. Anti-dandruff shampoo

1. Used to control dandruff conditions
2. Composition of a plain shampoo and a germicide

UNIT: SHAMPOOING - CONTINUED

TOPIC:

SCIENCE KNOWLEDGE - CONTINUED

L. Henna shampoo

1. Produced for lawsonia alba (henna plant)
2. Produces a reddish or auburn color
3. Do not use on blonde, white, or grey hair - it will produce an orange color

M. Liquid dry shampoo

1. Used on a patron that is prevented by illness from having a regular wet shampoo
2. Made from benzene or gasoline
3. Keep the room well ventilated when using liquid dry shampoo

N. Powder dry shampoo

1. Given to a patron that cannot have a wet shampoo due to health problems
2. Contains orris root powder

O. Safety - Do not give a powder dry shampoo before any chemical service

P. Egg shampoo

1. Contains small amount of eggs
2. Recommended for dry, brittle, over-lightened or tinted hair

Q. Castile and oil shampoo

1. Contain coconut oil soap solution, flakes or castile soap
2. Small amount of olive oil is added to prevent excessive drying
3. Both are neutral and mild inaction if they contain a high grade castile soap

R. Medicated shampoos

1. Contain special chemical or drugs
2. Must be used only with a physician's prescription and instruction

S. Hair rinses - composition of water alone or a mixture of water with a mild acid, coloring agent, or special ingredients

SCIENCE KNOWLEDGE - CONTINUED

T. Acid rinses

1. Causes of soap scum
    a. Minerals are present in all kinds of water
    b. The more minerals, the harder the water
    c. Soaps contain fatty acids
    d. Minerals and fatty acids combine to form a soap scum which dulls the hair and makes combing difficult
    e. Special acid rinses are on the market for the purpose of removing soap curds from the hair
2. Prepared acid rinses contain the following ingredients
    a. Citric acid - juice from lime, lemon, or orange
    b. Tartaric acid - obtained from residues in wine making
    c. Acetic acid - present in vinegar
    d. Lactic acid - lactose or sugar of milk
3. Acid rinses counteract the alkilinity of hair after a tint, lightener, or cold wave service
4. Do not use an acid rinse without diluting it with water, pure acid can burn the scalp

U. Cream rinses

1. Purpose
    a. Soften hair
    b. Add luster
    c. Detangle hair
2. To be effective, cream rinses depend on one or more chemicals having one property in common - they stick to the hair
3. Cream rinses are slightly acid in reaction, but will have no effect as a soap curd remover

V. Acid-balanced rinses

1. Non-strip
2. Will help close and harden cuticle, which have been swollen or opened by an alkali product

UNIT: SCALP AND HAIR CARE

TOPIC:

TASK	THEORY	COMMUNICATION SKILLS	MATHEMATICS SKILLS	SCIENCE KNOWLEDGE	STUDENT OUTCOME
I. Performing the required techniques and scalp manipulations for a corrective scalp and hair treatment		A. Outlining and note taking B. Writing skills (workbook) C. Following directions a. Using electrical equipment b. procedure to follow by manufacturer's instruction for hair and scalp preparations D. Vocabulary E. Fact - Opinion distinction F. Signal words G. Oral communication H. Inferencing I. Test taking skills J. Spelling		A. Trichology 1. Appendage of skin 2. Composition of hair 3. Divisions of hair 4. Structures associated with hair root 5. Structures connected to hair follicles 6. Hair structure 7. Hair distribution 8. Hair growth 9. Replacement of hair 10. Life and density of hair 11. Color of hair 12. Hair definition and technical terms 13. Hair analysis B. Disorders of the scalp 1. Pityriasis (dandruff) 2. Alopecia C. Contagious disorders 1. Vegetable parasitic infections 2. Animal parasitic infections 3. Staphylococci infections D. Disorders of the hair Non-contagious disorders	A. Know the purpose of scalp and hair care B. Identify the normal and abnormal scalp and hair disorders C. Be able to select the correct cosmetic to be used on the hair and scalp D. Perform a scalp and hair treatment with manipulations, cosmetics, and electrical equipment Written and performance test

UNIT: SCALP AND HAIR CARE - CONTINUED

TOPIC:

TASK	THEORY	COMMUNICATION SKILLS	MATHEMATICS SKILLS	SCIENCE KNOWLEDGE	STUDENT OUTCOME
				E. Anatomy 1. Knowing the muscles 2. Location of blood vessels and the nerve points of the scalp and neck F. Electricity and light therapy 1. Faradic current 2. Sinusoidal current 3. High-frequency current 4. Electrical equipment 5. Ultra-violet rays 6. Infra-red rays G. Cautions 1. Creams or ointments may be applied before using a high-frequency current 2. Hair tonics or lotions with alcoholic content may be applied only after the application of high-frequency current	

UNIT: SCALP AND HAIR CARE - CONTINUED

TOPIC:

TASK	THEORY	COMMUNICATION SKILLS	MATHEMATICS SKILLS	SCIENCE KNOWLEDGE	STUDENT OUTCOME
	A. Describe the various scalp and hair disorders encountered in the beauty salons and demonstrate treatments for each B. The purpose of the cosmetics used in scalp and hair care C. State Board Regulations 1. Sanitation and sterilization 2. Protection of patron and operator 3. Preventing epidemics (contagious diseases) D. Caution Do not suggest a a scalp treatment a. If there are scalp abrasions or scalp disorders b. Prior to the application of any chemical service c. If a serious or contagious scalp ailment is present, refer your patron to a physician			Purpose of scalp treatments 1. Health and beauty 2. Resistance to scalp and hair disorders and diseases 3. Stimulate the blood circulation 4. Relax and soothe the nerves 5. Stimulate the muscles and the activity of scalp glands 6. Render a tight scalp more flexible 7. Maintain the growth and health of hair	

UNIT: HAIR SHAPING

TOPIC:

TASK	THEORY	COMMUNICATION SKILLS	MATHEMATICS SKILLS	SCIENCE KNOWLEDGE	STUDENT OUTCOME
A. Sectioning for a hair cut B. Using hair shaping implements properly C. Cutting a guide-line used in hair shaping D. Thinning hair with several implements and various techniques E. Basic shaping techniques with scissors and a razor F. Using hair clippers G. Change a blade and proper placement of guard on razor H. Sterilizing metal implements	A. Purpose of hair shaping 1. Foundation for all styling 2. Accentuate the patron's good points 3. Minimizing poor features B. Safety rules to follow using implements	A. Vocabulary B. Outlining and note taking C. Writing skills (workbook) D. Pronunciation of terms E. Following directions F. Inferencing G. Oral communication H. Test taking skills I. Spelling J. Diagrams	A. Linear measurement Length - inches a. cutting b. thinning B. Angles	Anatomy (see unit for head shape and facial contour)	A. Performance tests 1. To be able to recognize angles and remove length in relationship to hair cutting 2. Student will do hair thinning with a razor and thinning shears 3. Student will do various hair cuts using scissors and a razor B. Students will know definitions, safety procedures for cutting and using cutting implements, and related theory pertaining to hair shaping on a written test

UNIT: HAIR SHAPING - CONTINUED

TOPIC: MEN'S HAIRCUTTING

TASK	THEORY	COMMUNICATION SKILLS	MATHEMATICS SKILLS	SCIENCE KNOWLEDGE	STUDENT OUTCOME
A. Preparation of patron B. Clipper technique C. Shears and comb technique D. Arching technique E. Finger and shears technique F. Shaving neck and outline areas G. Final checkup and combing the hair	A. Haircutting areas 1. Edging 2. Siding 3. Topping B. How to hold comb and clipper C. How to use clipper and comb D. How to hold shears and comb E. How to use shears and comb 1. Outlining outer borders of the haircut in front and over the ears and the side of the neck 2. Accomplished with the point of the shears F. How to arch the right and left side G. Procedure for finger and shear technique H. Shaving neck and outlined areas 1. Preparation for a neck shave 2. Applying lather for a neck shave 3. Procedure for shaving outlined areas 4. Cleaning shaved areas 5. Routine for a check-up of the haircut and combing the hair				

UNIT: HAIR SHAPING - CONTINUED

TOPIC:

TASK	THEORY	COMMUNICATION SKILLS	MATHEMATICS SKILLS	SCIENCE KNOWLEDGE	STUDENT OUTCOME
	A. Additional services 1. Trimming eyebrows 2. Trimming hair from nostrils 3. Trimming protruding hair from ears B. State Board Regulations 1. Discard used towel and neck strip 2. Remove hair from chair 3. Sweep hair from floor and place into a closed container 4. Clean and sanitize used implements 5. Place sanitized implements into dry sanitizer, or ultra-violet ray sanitizer 6. Wash hands				

UNIT: FINGER WAVE

TOPIC:

TASK	THEORY	COMMUNICATION SKILLS	MATHEMATICS SKILLS	SCIENCE KNOWLEDGE	STUDENT OUTCOME
A. Form a horizontal finger wave B. Form a vertical finger wave C. Form a diagonal finger wave D. Form a shadow wave	A. Reasons for studying finger waving B. How to use finger wave lotions, fingers, and a comb for correct finger waving	A. Outlining and note taking B. Writing skills (workbook) C. Vocabulary D. Oral communication E. Inferencing F. Following directions G. Test taking skills H. Diagrams	A. Angles B. Linear measurements Amount of space between ridges		A. To recognize correct angles used to perform various finger wave sets (performance test) B. The student will know the techniques used in finger waving and the necessary precautions to suggest (written test)

UNIT: THE CARE AND STYLING OF WIGS

TOPIC:

TASK	THEORY	COMMUNICATION SKILLS	MATHEMATICS SKILLS	SCIENCE KNOWLEDGE	STUDENT OUTCOME
A. Cleaning a wig or hairpiece B. Styling a wig or hairpiece	A. Why wigs and hairpieces are worn 1. Necessity 2. Fashion 3. Practicality B. Types of wigs 1. Human hair 2. Synthetic 3. Animal hair 4. Handmade 5. Machine made C. Taking wig measurements 1. Comfort 2. Secure fit D. Ordering the wig 1. Hair shade 2. Quality of hair 3. Length of hair 4. Type of hair pattern E. Blocking the wig Proper blocking improves results of shaping, setting, and combing the wig F. Adjusting the wig 1. Stretch to make larger 2. Sew vertical and horizontal tucks to make smaller 3. Adjust elastic in wig for a better fit	A. Outlining and note taking B. Writing skills (Workbook) C. Vocabulary D. Inferencing E. Oral communication F. Test taking skills G. Definitions pertaining to wigs	Measurements 1. Measure circumference of head 2. Taking wig measurements 3. Adjusting wig to smaller size 4. Horizontal and vertical tucks		A. The student will know the different types of wigs, what they are made of, and how they are made on a written test B. The student will know the procedure in taking wig measurements and how to make adjustments on a written test C. The student will know how to shape, style, and color wigs and hairpieces on a written test D. Safety precautions to be followed E. The student will perform cleaning and styling of a wig or hairpiece

UNIT: THE CARE AND STYLING OF WIGS - CONTINUED

TOPIC:

THEORY - CONTINUED

G. Cleaning wigs

1. Human hair - dry clean every two to four weeks on a block
2. Synthetic wigs
    a. Non-absorbent fibers will not need cleaning as often
    b. Clean with mild shampoo and tepid water

H. Conditioning the wig

1. No natural oils for self-lubrication
2. Condition after each cleaning

I. Shaping wigs

1. Shape on the head or block
2. Shape the same as natural hair on head
3. More hair on wigs, must thin and taper more

J. Shaping synthetic wigs

1. Use only scissors and thinning shears
2. A razor may cause permanent damage
3. Cut hair dry to avoid stretching of fibers

K. Setting and styling

1. Human hair - same setting techniques as on a human head
2. Synthetic
    a. Avoid teasing and back combing
    b. Will not take a roller or pin curl set
    c. Usually are pre-styled and only need combing

L. Hair coloring

1. Use temporary and semi-permanent colors
2. Avoid permanent tints
3. Protect wig block with plastic bag

M. Types of hairpieces

1. Switches
2. Wiglets
3. Bandeau

UNIT: THE CARE AND STYLING OF WIGS - CONTINUED

TOPIC:

THEORY - CONTINUED

4. Fall
5. Demi-fall or demi-wig
6. Cascade
7. Braid
8. Cignon
9. Crown curls
10. Frosting curls

N. Safety precautions

1. Avoid matting wigs when combing or brushing
2. Never rub or wring fluid from wig when dry cleaning
3. Take care when cutting a wig, hair does not grow back
4. Place wig on same size wig block as the head size of wig
5. Never lighten wigs or hairpieces
6. Never give a permanent wave to wigs or hairpieces

UNIT: HAIRSTYLING

TOPIC:

TASK	THEORY	COMMUNICATION SKILLS	MATHEMATICS SKILLS	SCIENCE KNOWLEDGE	STUDENT OUTCOME
A. Use of hairstyling implements and products B. Removing tangles from hair C. Make a part D. Find the natural part E. Draw a diagram of a pin curl and its parts F. Style sets using curl mobility, clockwise, and counter-clockwise pin curls G. Combout pin curl shapings for proper effects H. Hair shaping for various pin curl bases I. Anchoring of pin curls, ridge curls, sky's wave, and cascade pin curls J. Sectioning hair for roller placement K. Rolling hair around roller and placing on correct base L. Various roller sets M. Combouts using various techniques and products N. Braiding 1. Regular 2. Inverted	A. Why it is important to have a basic knowledge of hairstyling B. The basic qualities of a good pin curl C. The various curl bases used D. The effects that can be created with rollers E. How to analyze each facial type for a suitable hairstyle F. The purpose of backcombing and backbrushing G. Analyze hair shapes	A. Outlining and note taking B. Writing skills (workbook) C. Vocabulary D. Following directions E. Inferencing F. Oral communication G. Test taking skills H. Diagrams	A. Angles B. Square measurement 1. Square 2. Rectangle 3. Triangle 4. Circle Used to place rollers and pin curls for various styling techniques clockwise and counter-clockwise curl shaping	Anatomy (see unit for facial and head structure)	A. The student will know definitions pertaining to hairstyling on a written test B. The student will know the various types of curls, how to use rollers, and the effects they create on a performance test

UNIT: PERMANENT WAVING

TOPIC:

TASK	THEORY	COMMUNICATION SKILLS	MATHEMATICS SKILLS	SCIENCE KNOWLEDGE	STUDENT OUTCOME
A. Analyze scalp and hair B. Shampoo hair C. Shape hair D. Section hair and block for 1. Single halo 2. Straight back 3. Bangs 4. Dropped crown 5. Piggyback 6. Stacked E. Apply the waving lotion F. Check wave pattern G. Rinse hair H. Towel blot dry I. Apply neutralizer J. Rinse hair K. Remove rods	A. History of permanent waving 1. Practiced by the Egyptians and Romans 2. In 1905, Charles Nesslu invented the heat permanent waving machine B. Methods of winding hair 1. Spiral 2. Croquignole 3. Combination C. Definition of permanent waving 1. Heat waving a. Machine preformed curls through a series of heaters attached by wires to the machine b. Pre-heat method pre-heated clamps placed over prepared curls c. Machineless method 1.1. No electrical wires or machine	A. Outlining and note taking B. Writing skills - workbook C. Pronunciation of terms D. Following directions - manufacturer's instructions E. Vocabulary F. Inferencing G. Signal words - chemicals H. Oral communication I. Spelling J. Diagrams - perming patterns K. Test taking skills	A. Angles B. Rectangle On and off base wrapping	A. Composition of Hair 1. Three layers a. Cuticle b. Cortex c. Medulla 2. Composed of a hard protein called keratin B. Cortex layer 1. Composed of parallel fibers of hard keratin twisted around each other 2. Parallel fibers referred to as polypeptide chains 3. Permanent waving takes place in cortical layer C. Peptide bonds 1. Each amino acid is joined to another by peptide bonds (end bonds) forming a chain as long as the hair 2. They are the strongest bonds in the cortex 3. Peptide bonds are chemical bonds, the hair is weakened if these bonds are broken	A. The student will know the theory related to heat and cold permanent waving on a written test B. The student will perform a complete permanent wave using chemicals on a performance test C. The student will perform the various techniques of permanent wave wrapping on a performance test

UNIT: PERMANENT WAVING - CONTINUED

TOPIC:

TASK	THEORY	COMMUNICATION SKILLS	MATHEMATICS SKILLS	SCIENCE KNOWLEDGE	STUDENT OUTCOME
	1.2. Chemical pads moistened with water to produce heat 2. Cold Waving 1938 - 1939 a. Inexpensive b. Faster than heat method c. More comfort to the patron			D. Cross-bonds 1. Two types of cross-bond a. Sulfur bonds - (chemical) called S-bonds b. Hydrogen bonds - (physical) called H-bonds 2. Sulfur bonds are strong and can only be broken with chemicals 3. Hydrogen bonds are weak and can be broken with water or chemicals	
	D. Hair shaping Avoid tapering before permanent waving or the results will be frizzy E. Types of curling rods F. Winding the hair 1. Curl one-half off base 2. Curl off base 3. Curl on base G. End papers 1. Double end paper wrap 2. Single end paper wrap			E. Thio solution in permanent waving 1. Ammonium thioglycolate (thio) - a solution with a pH of 9.4 - 9.6 causes the cuticle of the hair to swell and the imbrications to open, allowing the solution to penetrate into the cortex 2. The solution breaks down all the H-bonds, many of the S-bonds, and alters the polypeptide chains	

UNIT: PERMANENT WAVING - CONTINUED

TOPIC:

TASK	THEORY	COMMUNICATION SKILLS	MATHEMATICS SKILLS	SCIENCE KNOWLEDGE	STUDENT OUTCOME
	3. Book end paper wrap H. Wave formation 1. Under-processed 2. Over-processed I. Methods of neutralization 1. On-the-rod method 2. Splash-on method J. Record card List all information related to patron and service K. Safety 1. Apply protective cream and cotton around patron's hairline 2. Avoid excess tension in winding 3. Do not use extreme heat when drying hair 4. If lotion drips into patron's eyes, rinse with cold water immediately and take patron to doctor			F. Acid and neutral permanent waving 1. pH 4.5 - 6.5 2. Same procedure as thio 3. No swelling of the hair 4. Less chance of over-processing 5. Less hair damage 6. Less chance of skin irritation 7. No color removal from tinted hair 8. Leaves hair feeling softer and more natural 9. Disadvantages a. Curls are not as tight b. Curls do not hold as long as thio method G. Types of cold waves 1. Alkaline a. ammonia and salt ammonium thioglycolate b. pH 9.4 - 9.6 2. Neutral and acid balanced - 4.5 - 7.9 pH	

UNIT: PERMANENT WAVING - CONTINUED

TOPIC:

TASK	THEORY	COMMUNICATION SKILLS	MATHEMATICS SKILLS	SCIENCE KNOWLEDGE	STUDENT OUTCOME
	5. Wipe skin with water, then neutralizer, if any lotion drips 6. Protect your hands with gloves and protective cream L. State Board regulations 1. Never leave patron unattended during chemical service 2. Follow sanitary procedures M. Permanent waving for men 1. Same chemicals are used 2. Winding procedures are the same 3. Placement and fastening of the rods are the same 4. Same procedure for processing and neutralizing N. Special problems 1. Dry, brittle, damaged, or over-porous hair should be given reconditioning treatments			H. Major actions of cold waves 1. Physical action - wrapping the hair around the rod 2. Chemical action - a. Processing - Physical and chemical bonds broken by pum lotion Rearrangement of inner structure b. Neutralizing - Stops action of wave lotion and reforms the physical and chemical cross-bonds in the cortical layer I. Scalp and hair analysis 1. Scalp condition 2. Hair porosity 3. Hair texture 4. Hair elasticity 5. Hair density 6. Hair length	

UNIT: PERMANENT WAVING - CONTINUED

TOPIC:

TASK	THEORY	COMMUNICATION SKILLS	MATHEMATICS SKILLS	SCIENCE KNOWLEDGE	STUDENT OUTCOME
	2. Use special permanent wave fillers for over-porous hair 3. After care of perms a. Use mild shampoo b. Apply special conditioners c. Avoid excessive brushing or combing in the opposite direction 4. Trim hair at regular intervals 5. Do not give permanent wave if metallic dye is present 6. Curl reduction several weeks after a perm, if patron is unhappy O. Waving tinted or lightened hair 1. Use mild shampoo before waving 2. Wrap hair with special conditioner 3. Use proper lotion for this type of condition 4. Give test curls, use milder lotion, and shorter processing time			J. Heat permanent waving 1. Neutral and acid-balanced lotions - Advantages a. No harsh alkali b. No swelling of the hair c. No ammonia (will not remove artificial color) d. No offensive odor e. Less chance of skin irritation f. Softer and natural looking waves 2. Neutral and acid-balanced lotions - Disadvantages a. Curl results not as tight as alkaline lotion b. Curls tend to relax sooner c. pH range of lotions slow to penetrate cortex d. Heat must be applied 3. Methods of applying heat a. Pre-heated dryer method b. Heated clamp method c. Thermal cap d. Chemical heat	

UNIT: HAIR COLORING

TOPIC:

TASK	THEORY	COMMUNICATION SKILLS	MATHEMATICS SKILLS	SCIENCE KNOWLEDGE	STUDENT OUTCOME
A. Scalp and hair analysis B. Apply temporary colors C. Apply semi-permanent tints D. Section hair and apply one-step tint E. Apply tint for a one-step retouce F. Apply a highlighting shampoo tint	A. Definition of hair coloring B. Reasons for coloring and lightening 1. Restore grey hair to its natural shade 2. Change natural color to a more attractive color 3. Restore hair to natural color 4. To create decorative effects C. Advantages of hair coloring 1. For men and women with prematurely grey hair 2. Business women and men who may feel that their shade of hair is a handicap 3. To maintain a youthful appearance	A. Outlining and note taking B. Writing skills (workbook) C. Pronunciation of terms D. Following directions (manufacturer instructions) E. Vocabulary F. Inferencing G. Signal words (chemicals) H. Oral communication I. Spelling J. Diagrams (sectioning for various types of color application and hair structure) K. Test taking skills	A. Weight and volume B. Ratio and proportion C. Mixing tint and lightening chemicals D. Whole numbers E. Fractions F. Chemical mixture G. Sectioning and subsectioning	Classifications of hair coloring 1. Temporary a. Color rinses b. Highlighting color shampoos c. Crayons d. Hair color creams e. Hair color sprays f. Mascara 2. Temporary colors contain true stain a. Accepted for use by the government for use in foods, drugs, and cosmetics b. Also called certified colors c. Composed of large molecules d. Acid in chemical composition e. Unable to penetrate cortical layer f. Coloring trapped behind imbrications of the cuticle	A. The student will know the related theory, safety precautions, and hair coloring definition on a written test B. The student will be given a performance test on the application of temporary, semi-permanent, and permanent tints

UNIT: HAIR COLORING - CONTINUED

TOPIC:

TASK	THEORY	COMMUNICATION SKILLS	MATHEMATICS SKILLS	SCIENCE KNOWLEDGE	STUDENT OUTCOME
	D. Theory the cosmetologist must know 1. The general structure of the hair and scalp 2. The proper selection and application of hair tints and lightener 3. The chemical reactions to tints and lighteners E. Preparation for hair tinting 1. Color selection 2. Rules for color selection 3. Testing for color selection (strand test procedure) F. Methods of keeping hair tint records 1. Procedure for application of temporary color rinses 2. Procedure for application of semi-permanent tints Note - Some semi-permanent tints require a 24 hour patch test			3. Semi-permanent tints a. Last 4 - 6 weeks b. Same as permanent tints, but molecules are larger c. No peroxide is required d. Alkaline in chemical composition e. Alkaline swells the cuticle f. Swelling permits a limited amount of molecules to enter the cortex 4. Permanent hair tints Will last longer than semi-permanent tints 5. Aniline derivative tints a. Also known as oxidizing tints b. Composed of very small molecules c. Penetrates into the cortex d. Hydrogen peroxide causes small molecules to develop into giant moleculres once inside the cortex - molecules are now too large to be shampooed out of the	

UNIT: HAIR COLORING - CONTINUED

TOPIC:

TASK	THEORY	COMMUNICATION SKILLS	MATHEMATICS SKILLS	SCIENCE KNOWLEDGE	STUDENT OUTCOME
	G. One-step tints 1. No pre-shampooing or pre-lightening needed 2. Leaves no line of demarcation 3. Colors hair lighter or darker than natural color 4. Blends grey hair to match natural colors 5. Tone down streaks, off shades, and faded hair ends 6. Use general rules for color selection H. Procedure for one-step tint for virgin hair I. Procedure for one-step retouch J. Procedure for highlighting shampoo tints K. Pre lighten For drastic color change lighter than natural hair color L. Procedure for pre-softening application For resistant hair in order for it to readily absorb the tint			e. Molecules form bonds with the keratin chains in the cortex f. These bonds are acid and leave the H and S-bonds free for other services 6. Aniline derivative tints are also called a. Synthetic organic tints b. Peroxide tints c. Oxidation tints d. Para tints e. Amino tints 7. Main ingredient - para-pheny-lene-diamine or related compound 8. Oxidation Reaction caused when a tint and hydrogen peroxide are mixed together 9. Allergy a. Predisposition test given 24 hours prior to application b. Required by law U.S. Federal Food, Drug and Cosmetic Act	

TOPIC:

TASK	THEORY	COMMUNICATION SKILLS	MATHEMATICS SKILLS	SCIENCE KNOWLEDGE	STUDENT OUTCOME
	M. State Board regulations 1. Sanitary procedures 2. Never leave patron unattended during chemical service N. Safety 1. Patch-test 2. Eye protection and gloves to be used by operator 3. Never store mixed chemicals (prepared tints will explode)			c. A negative test will show no signs of inflammation d. Positive skin test - presence of redness, swelling, burning, itching, blisters, or eruptions e. Caution - Aniline derivative tints must never be used on the eyelashes or eyebrows - may cause blindness 10. Pure vegetable tints a. Indigo b. Camomile c. Sage d. Egyptian henna (only one used today) 1.1. Forms a paste 1.2. Coats the shaft 1.3. Some may penetrate into the cortex 1.4. Reddish in color	

UNIT: HAIR COLORING - CONTINUED

TOPIC:

TASK	THEORY	COMMUNICATION SKILLS	MATHEMATICS SKILLS	SCIENCE KNOWLEDGE	STUDENT OUTCOME
				11. Metallic Dyes a. Some metallic salts enter the cortex and combine with the S-bonds b. Metallic salts (lead, silver, copper) are very poisonous c. Cause violent reaction with hydrogen peroxide on the hair d. Not used professionally 12. Compound dyes a. Combination of vegetable dyes and metallic salts b. Coat hair shaft c. Some salts may enter into the cuticle and combine with S-bonds d. Hair unfit for permanent waving, tinting, and chemical relaxing e. Use 120 formula to test for presence of metallic salts - 1 oz. of peroxide and 20 drops of 28% ammonia	

UNIT: HAIR LIGHTENING

TOPIC:

TASK	THEORY	COMMUNICATION SKILLS	MATHEMATICS SKILLS	SCIENCE KNOWLEDGE	STUDENT OUTCOME
A. Virgin application 1. Prepare patron 2. Section hair 3. Mix chemicals 4. Sub-section 1/8" partings 5. Apply cream bleach 6. Test for removal of pigment 7. Shampoo and rinse hair 8. Mix and apply toner B. Lightener retouch 1. Prepare patron 2. Section hair 3. Mix chemicals 4. Sub-section 1/8" parting 5. Apply cream bleach to new growth only 6. Test for removal of color 7. Shampoo and rinse 8. Mix and apply toner	A. How lighteners are used 1. Color treatment 2. Preliminary treatment 3. Two-step process or double-application B. Effects of lighteners 1. Seven stages of lightening 2. Lightens hair 3. Hair becomes porous C. Actions of hair lighteners 1. Lighten for toner application 2. Lighten hair to a particular shade 3. To brighten and lighten existing shade 4. To tip, frost, or streak 5. To lighten tinted hair 6. Remove undesirable casts 7. To correct dark streaks or spots	A. Outlining and note taking B. Writing skills (workbook) C. Following directions (manufacturers instructions) D. Inferencing E. Signal words (chemicals) F. Oral communication G. Diagrams (sectioning for application, hair structure) H. Test taking skills I. Definitions pertaining to hair coloring	A. Weights and volume B. Ratio and proportion C. Whole numbers (mixing chemicals for lightening, sectioning, and sub-sections) D. Percentage of strengths of peroxide	A. Color strippers 1. Chemical agent used to strip out color from the hair 2. Strong oxidizing agents that reduce the giant color molecules in the cortex into small colorless particles 3. Small particles pass through imbrications of the cuticle, and are rinsed from the hair B. Hair lightening 1. Process that decreases or removes natural color pigment 2. Melanin color pigments - black to brown shades 3. Oxymelanin color pigments - red to yellow shades C. Natural conditions Color removed by the sun's rays, chlorinated water, or other natural action	A. The student will know the related theory, safety precautions, and definitions pertaining to hair lightening B. The student will be given a performance test on the application of a lightener for virgin hair, a lightener retouch, and a frosting

UNIT: HAIR LIGHTENING - CONTINUED

TOPIC:

TASK	THEORY	COMMUNICATION SKILLS	MATHEMATICS SKILLS	SCIENCE KNOWLEDGE	STUDENT OUTCOME
C. Frostings 1. Draw strands through holes in cap with crochet hook 2. Mix and apply powder lightener with brush 3. Cover head with plastic cap or aluminum foil 4. When sufficiently lightened, shampoo and rinse 5. Mix and apply toner	D. Choice of hair lighteners 1. Cream lightener (blue base) for pre-lightening for pastel shades 2. Neutral oil lightener to lighten without adding color 3. Drab oil lightener to avoid red or gold highlights 4. Red or gold lighteners to obtain red or gold highlights 5. Powder lighteners for tipping, streaking, or frosting E. Procedure for lightening a virgin head F. Procedure for lightener retouch G. Partial lightening 1. Frosting-strands of hair lightened over various parts of the head 2. Tipping - wisps of hair lightened in various areas 3. Streaking - a lightened strand, usually at the front hairline			D. Artificial condition Chemical means of lightening hair E. Stage one Changes melanin pigments to oxymelanin F. Stage two Continuation of breaking down oxymelanin to desired effect G. Removing pigments Chemical agent used is hydrogen peroxide 6% (20 volume) a. Active ingredient is oxygen gas b. To speed up action add small amount of 28% ammonia c. Leaves hair with a straw-like appearance and reddish or brassy tones	

TOPIC:

TASK	THEORY	COMMUNICATION SKILLS	MATHEMATICS SKILLS	SCIENCE KNOWLEDGE	STUDENT OUTCOME
	H. Blonde-on-blonde effect Hair to be treated should be blonde I. Damaged hair 1. Over-porous 2. Brittle and dry 3. Breaks easily 4. No elasticity 5. Rough and harsh to the touch 6. Over-lightened hair is coarse and spongy and mats easily when wet 7. Rejects color or absorbs too much color J. Causes of damaged hair 1. Frequent use of sprays 2. Careless application of chemicals 3. Use of high alkaline shampoo 4. Improper water temperatures 5. Improper use of hair dryers 6. Extreme exposure to the elements			H. Uses of hydrogen peroxide 1. Lightening agent a. Softens cuticle b. Lightens the shade of pigment in the cortical layer 2. Softening agent a. Softens cuticle of the hair b. Hair becomes more receptive to the action of an aniline derivative tint 3. Oxidizing agent a. Hydrogen peroxides used in all aniline derivative tests b. Acts as a developer by liberating oxygen gas, which changes para-phenylene-diamine into a dark colored compound	

UNIT: HAIR LIGHTENING - CONTINUED

TOPIC:

TASK	THEORY	COMMUNICATION SKILLS	MATHEMATICS SKILLS	SCIENCE KNOWLEDGE	STUDENT OUTCOME
	K. Advantages of color fillers 1. Deposit color to faded hair shafts and ends 2. Help hair to hold color 3. To insure a uniform color 4. Prevent color streaking 5. Prevent off-color results 6. Prevent a dull color appearance 7. Give more uniform color in a tint back to natural shade L. Removal of aniline derivative tints 1. Commercial products to remove tint from the hair 2. Contain hydrogen peroxide, acids, sodium hydrosulfite, a mixture of mineral and vegetable oils, or sulfonated oils M. Procedure for removal of aniline derivative tints - follow manufacturer's directions			I. Commercial lighteners 1. Oil lighteners - mixture of hydrogen peroxide and sulfonated oils 2. Cream lighteners - contain conditioning agents, bluing and thickener 3. Powder lighteners - contain an oxygen releasing booster and inert substances J. Toners 1. Permanent aniline derivative hair colorings 2. Pale, delicate colors 3. Chemical actions are identical with those described for aniline derivative tints	

UNIT: HAIR LIGHTENING - CONTINUED

TOPIC:

TASK	THEORY	COMMUNICATION SKILLS	MATHEMATICS SKILLS	SCIENCE KNOWLEDGE	STUDENT OUTCOME
	N. Tint back to natural color 1. Check natural color close to the scalp 2. Check condition of the hair 3. Select appropriate shade of filler 4. Perform a strand test O. Procedure for tint back application P. Spot lightening and lightening streaked hair Lighten only necessary areas Q. Lash and brow tint 1. Never use aniline derivative tints 2. Use only prepared products and follow manufacturer's instructions R. Safety Wear gloves and goggles when mixing or applying chemicals			K. Color fillers 1. Equalize the porosity 2. Deposits a base color 3. Composed of protein, keratin and certified color 4. Color filler is a jelly-like substance 5. Composed of the same chemical properties of hair	

UNIT: CHEMICAL HAIR RELAXING

TOPIC:

TASK	THEORY	COMMUNICATION SKILLS	MATHEMATICS SKILLS	SCIENCE KNOWLEDGE	STUDENT OUTCOME
A. Sodium Method 1. Examine scalp 2. Strand test 3. Prepare patron (protect eyes) 4. Section hair 5. Apply protective base 6. Apply relaxer (use comb method) 7. Rinse out relaxer 8. Shampoo/ Neutralize B. Sodium hydroxide retouch 1. Follow same procedure, but apply only to new growth 2. Apply thio following given directions	A. Chemical hair relaxing or chemical hair straightening is the process of permanently rearranging the basic structure of over-curly hair into a straight form B. Basic products used 1. Chemical hair relaxer 2. Neutralizer 3. Petroleum cream to protect patron's scalp 4. No base relaxers are available C. Basic steps 1. Processing 2. Neutralizing 3. Conditioning D. Cautions 1. It is not advisable to use chemical relaxers on hair that has been lightened. 2. Damaged conditions due to thermal comb, thermal iron, tinting or lightening should be conditioned to protect against breakage	A. Outlining and note taking B. Writing skills (workbook) C. Pronunciation of terms D. Following directions (manufacturers directions) E. Vocabulary F. Inferencing G. Signal words (chemicals) H. Oral communication I. Spelling J. Test taking skills		A. Chemical hair relaxing 1. Objective to remove curl permanently 2. Similar technique followed in permanent waving 3. Reverse results of permanent waving 4. Breaks down S-bonds and H-bonds in the cortex, but hair must be held in a straight position B. Two types of chemical relaxers 1. Thio (thioglycolate) a. pH 9.4 - 9.6 b. Weaker than sodium hydroxide 2. Sodium hydroxide a. pH 10 - 14 b. Caution - if left on more than ten minutes it may dissolve hair c. Caustic d. Softens and swells the hair 3. Fixative - a neutralizer or stabilizer is used in an acid solution with a pH of 3 - 4	A. Student will know the difference of sodium hydroxide relaxing and thio relaxing on a written test B. Students will perform the finger and comb methods for application of chemical relaxers on a performance test

TASK	THEORY	COMMUNICATION SKILLS	MATHEMATICS SKILLS	SCIENCE KNOWLEDGE	STUDENT OUTCOME
	E. Recommended strength of relaxer 1. Determined by the strand test 2. Fine, tinted, or lightened hair - use mild relaxer 3. Normal, medium - textured virgin hair - use regular relaxer 4. Coarse virgin hair - use strong relaxer F. Sodium hydroxide method 1. Protect patron's eyes 2. Operator should wear gloves and safety glasses 3. Avoid use of heat - could open pores 4. Avoid excessive heat with thermal irons 5. Wind hair on rollers without extreme tension G. Sodium hydroxide or thio retouch Apply only to new growth of hair			C. Processing hair 1. All H-bonds broken, most S-bonds broken 2. Hand and comb manipulations starting to relax wave 3. Polypeptide chains shift D. Neutralizing The neutralizer fixes polypeptide chains in a straight position after hair has been fully relaxed E. Straightened hair 1. After rinsing and proper drying, lanthionine cross links now exist between polypeptide chains, keeping the hair in a permanently straight form 2. Drying re-forms the physical bonds	

UNIT: CHEMICAL HAIR RELAXING - CONTINUED

TOPIC:

TASK	THEORY	COMMUNICATION SKILLS	MATHEMATICS SKILLS	SCIENCE KNOWLEDGE	STUDENT OUTCOME
	H. Ammonium thioglycolate method 1. Same procedure as a cold wave without rods 2. Apply scalp base if required I. Chemical blowout 1. Removes only a small amount of curl 2. Combination of chemical hair straightening and hairstyling 3. May use thio or sodium hydroxide 4. Follow same safety precautions J. Soft curl permanent 1. Method of permanently waving over-curly hair 2. Caution - this product contains thio a. Do not use it on hair that has been relaxed with sodium hydroxide b. Do not use it on hair that has been colored with metallic dye or compound henna				

UNIT: THERMAL HAIR STRAIGHTENING (HAIR PRESSING)

TOPIC:

TASK	THEORY	COMMUNICATION SKILLS	MATHEMATICS SKILLS	SCIENCE KNOWLEDGE	STUDENT OUTCOME
A. Demonstrate cleaning and heating of pressing combs B. Section hair C. Apply pressing oil or cream D. Demonstrate a soft press E. Demonstrate a hard press with pressing comb	A. Thermal hair straightening or hair pressing temporarily straightens over-curly or kinky hair B. Two basic methods 1. Soft press - accomplished with thermal pressing comb 2. Hard press - accomplished with thermal irons over the comb press or a double comb press C. Characteristics of hair and scalp 1. Hair texture refers to degree of coarseness or fineness of the hair 2. Diameter of the hair (coarse, medium, or fine) - fine wooly hair has the smallest diameter 3. Feel of hair (wiry, soft, silky, or wooly) D. Coarse, over-curly hair 1. Difficult to press 2. Greatest diameter 3. Can tolerate more heat and pressure than medium or fine hair	A. Outlining and note taking B. Writing skills (workbook) C. Following directions (manufacturers directions) D. Inferencing E. Oral communication F. Test taking skills			A. The student will know the characteristics of the hair and scalp, procedures and safety precautions to accomplish soft and hard pressing on a written test B. The student will perform a soft and hard press

UNIT: THERMAL HAIR STRAIGHTENING (HAIR PRESSING) - CONTINUED

TOPIC:

THEORY - CONTINUED

  4. Consists of the cuticle, cortex, and medulla

E. Medium curly hair

  1. Normal type
  2. Least resistant to hair pressing
  3. Contains same layers as coarse, but to a lesser degree

F. Fine wooly hair

  1. Requires special care
  2. Apply less heat and pressure to avoid breakage
  3. Only two layers present - cortex and cuticle

G. Wiry curly hair

  1. May be coarse, medium, or fine
  2. Stiff, hard, glassy feeling
  3. Very resistant to hair pressing
  4. Requires more heat and pressure because of compact construction of cuticle

H. Elasticity - Ability of the hair to stretch and return to its normal length
I. Hair porosity - Ability of the hair to absorb moisture
J. Scalp

  1. Normal - proceed with an analysis of the texture and elasticity of hair
  2. Tight and the hair coarse - press the hair in the direction in which it grows, to avoid scalp injury
  3. Flexible - operator may not apply enough pressure to press hair satisfactorily

K. Pressing combs

  1. Regular and electric
  2. Both constructed of either steel or brass
  3. Handle made of wood (does not absorb heat)
  4. Teeth - space between teeth varies
  5. Size - may vary in size, short to long
  6. Heat - their ability to accept and retain heat depends on their composition
  7. Stoves - regular pressing combs may be heated on gas stoves or electric heaters

UNIT: THERMAL HAIR STRAIGHTENING (HAIR PRESSING) - CONTINUED

TOPIC:

THEORY - CONTINUED

8. Electric pressing combs - two forms
    a. Comes with on and off switch
    b. Equipped with a thermostat
9. The back rod of the comb actually does the pressing

L. Pressing oil or cream

1. Apply prior to hair pressing treatment
2. Makes hair softer
3. Prepares and conditions hair
4. Prevents hair from burning or scorching
5. Helps prevent breakage
6. Conditions hair after pressing
7. Adds sheen to pressed hair

M. Hair sectioning

1. Divide the head into four mainsections, then sub-divide into 1 - 1½" partings
2. Medium textured hair of average density - use average sub-sections
3. Coarse hair/greater density - use smaller sections - assures heat penetration
4. Thin or fine hair/sparse density - use larger sections

N. Procedure for hair pressing - follow instructions by your instructor
O. Touch-ups

1. Perspiration or dampness causes hair to regain its curliness
2. Pressing treatment the same, except omit the shampoo

P. Safety precautions

1. Direct injuries - immediate results of hair pressing, cause physical damage
    a. Burnt hair that breaks off
    b. Burnt scalp - causes temporary or permanent hair loss
    c. Burns on ears and neck that form scars
2. Indirect injuries - not immediately evident
    a. Skin rash - reaction to pressing oil
    b. Progressive breaking of hair - hair pressings too frequent
3. In case of burnt scalp, apply 1% gentian violet jelly
4. Avoid excessive heat on grey, tinted, or lightened hair, may discolor or burn

UNIT: THERMAL WAVING, CURLING AND BLOW-DRY STYLING

TOPIC:

TASK	THEORY	COMMUNICATION SKILLS	MATHEMATICS SKILLS	SCIENCE KNOWLEDGE	STUDENT OUTCOME
A. Style hair using the following techniques 1. Figure 6 2. Figure 8 3. Spiral curls 4. Volume base curls 5. Half base curls 6. Full base curls 7. Off base curls B. Blow dry styling with fingers C. Blow dry styling with a brush	A. Thermal waving and curling is the art of waving and curling straight or pressed hair with thermal irons B. Developed by Marcel Grateau - 1875 C. Thermal irons 1. Various styles and sizes 2. Conventional - stove heated 3. Electric/self-heated 4. Electric/ self-heated vaporizing 5. Vaporizing irons must not be used on pressed hair, moisture will cause hair to revert to its natural curl 6. Thermal irons used on chemically treated hair may cause breakage D. Conventional thermal irons 1. Composed of quality steel 2. Styling portion of rod a. Rod - round fixed solid steel bar b. Shell - inside grooved, movable	A. Outlining and note taking B. Writing skills (workbook) C. Vocabulary D. Inferencing E. Oral communication F. Spelling G. Test taking skills	A. 135° angle B. 125° angle C. 90° angle D. 70° angle		A. Student will demonstrate a knowledge of thermal curling and safety procedures on a written test B. Student will perform various techniques of thermal curling and safety procedures on a performance test C. Student will demonstrate a knowledge of blow drying and safety on a written test D. Student will perform various blow dry styling techniques on a performance test

UNIT: THERMAL WAVING, CURLING AND BLOW-DRY STYLING - CONTINUED

TOPIC:

THEORY - CONTINUED

E. Testing of thermal irons
   1. Test them on a piece of tissue paper
   2. If paper scorches, (turns brown) iron is too hot

F. Care of thermal irons - fine sandpaper or steel wool with a little oil removes rust and carbon

G. Comb used with thermal irons
   1. Should be about 7" long
   2. Made of hard rubber
   3. Non-flammable substance
   4. Fine teeth - holds hair more firmly

H. Various techniques with conventional and electric thermal irons
   1. Procedures for waves
   2. Curling short hair, medium, and long hair
   3. Figure 6 (one loop)
   4. Figure 8 (two loops)
   5. Spiral curls
   6. Volume base curls
   7. Half base curls
   8. Full base curls
   9. Off base curls

I. Safety of thermal irons
   1. Use irons only after receiving instructions
   2. Do not over heat irons
   3. Test temperature on tissue paper to prevent burning hair
   4. Protect patron's scalp and face from hot iron with comb
   5. Place hot irons in a safe place
   6. Do not place handles too close to the heaters
   7. Use only hard rubber combs
   8. Never use hot pressing or thermal irons on lightened or tinted hair
   9. A first aid kit must be available
   10. Do not use thermal irons on chemically straightened hair, will cause damage

UNIT: THERMAL WAVING, CURLING AND BLOW-DRY STYLING - CONTINUED

TOPIC:

THEORY - CONTINUED

J. Blow drying - quick salon service which replaces the use of rollers and pin curls

K. Blow drying cautions

  1. Blow dry styling should be done with caution on permanently waved hair, relaxed hair, or tinted and lightened hair
  2. Stretching could cause damage to the hair

L. Equipment, implements, and materials

  1. Blow dryer
  2. Combs
  3. Brushes
  4. Shampoo
  5. Styling lotion
  6. Conditioner
  7. Hair spray

M. Procedure

  1. With fingers
  2. With brushes
  3. Various types of styling

N. Reminders and safety

  1. Do not use a metal comb
  2. Towel dry hair before using blow dryer
  3. Keep moving dryer to avoid scalp burns
  4. Be sure to thoroughly dry scalp and hair

UNIT: MANICURING

TOPIC:

TASK	THEORY	COMMUNICATION SKILLS	MATHEMATICS SKILLS	SCIENCE KNOWLEDGE	STUDENT OUTCOME
A. Prepare manicuring table and supplies B. Remove old polish C. Shape nails D. Soften cuticle E. Dry fingertips F. Apply cuticle remover G. Loosen cuticle H. Clean under free edge I. Trim cuticle J. Bleach under free edge K. Apply cuticle cream or oil L. Cleanse nails M. Dry hands and nails N. Apply base coat O. Apply polish P. Apply top coat Q. Remove excess polish R. Apply hand lotion S. Massage the hand and arm and give an oil manicure T. Repair a nail U. Wrap a nail V. Apply press-on nails W. Mix chemicals and form artificial nails X. Prepare patron and give a pedicure with foot massage	A. The purpose of a manicure is to improve the appearance of the hands and nails B. The word manicure is derived from the Latin "manus" (hand) and "cura" (care) C. Qualifications of a manicurist 1. Knowledge of the structure of hands, arms, and nails 2. Know the composition of cosmetics used 3. Ability to give a good manicure in a professional manner 4. Distinguish between disorders and diseases of the nail 5. Ability to satisfy patron D. Equipment 1. Manicuring table and lamp 2. Patron's chair 3. Manicurist's stool 4. Cushion 5. Supply tray 6. Finger bowl 7. Container of cotton 8. Electric heater 9. Wet sanitizer	A. Outlining and note taking B. Writing skills (workbook) C. Pronunciation of terms D. Following directions (manufacturers directions) E. Vocabulary F. Inferencing G. Signal words (cosmetics, chemicals) H. Oral communication I. Diagrams (various procedures) J. Spelling K. Test taking skills		A. See chemistry unit on cosmetics B. Nail and structure - see unit The Nail and Disorders of the Nail C. See unit on Anatomy - bones of the hands and arm	

UNIT: MANICURING - CONTINUED

TOPIC:

THEORY - CONTINUED

E. Implements

1. Orangewood stick
2. Nail file
3. Cuticle pusher
4. Cuticle nippers or scissors
5. Nail brush
6. Emery boards
7. Nail buffer
8. Tweezers (to lift pieces of cuticle)

F. Cosmetics

1. Nail cleansers
2. Nail polish remover
3. Cuticle oil
4. Cuticle cream
5. Cuticle removers or solvents
6. Nail bleaches
7. Nail whiteners
8. Dry nail polish (powder)
9. Abrasive (pumice powder)
10. Liquid nail polish
11. Nail polish thinner
12. Base coat
13. Top coat
14. Nail strengtheners
15. Nail dryer
16. Powdered alum (stop bleeding)
17. Hand creams

G. Materials

1. Cotton
2. Soap
3. Warm water
4. Sanitized towels
5. Chamois (for buffer)
6. Paper cups (hot oil manicure)
7. Antiseptic

UNIT: MANICURING - CONTINUED

TOPIC:

THEORY - CONTINUED

8. Disinfectant
9. Spatula
10. Mending tissue
11. 70% alcohol

H. Shapes of nails

1. Square
2. Round
3. Oval
4. Pointed

I. Procedure for preparation of the manicuring table and supplies
J. Procedure for a plain manicure
K. Safety rules

1. Keep containers covered and labeled
2. Hold or move containers with dry hands
3. Handle sharp implements carefully
4. Do not file too deeply into the corners
5. Do not perform a manicuring service on a patron with diseased nails or infection
6. Avoid excessive friction (buffing)
7. Apply an antiseptic to cut skin
8. Apply styptic powder or alum solution to stop minor bleeding
9. Avoid pressure when pushing back the cuticle
10. Avoid pressure at the base of the nail
11. Do not work on a nail if the surrounding skin is inflammed or contains pus

L. Hand massage - To be included with each manicure
M. Electric manicure - Given with the aid of a portable device operated by a small motor with a variety of attachments
N. Oil manicure or lactor manicure - beneficial for ridged and brittle nails, and for dry cuticles
P. Procedure for an oil manicure
Q. Men's manicure - same procedure as for women

UNIT: MANICURING - CONTINUED

TOPIC:

THEORY - CONTINUED

R. Special problems and services

  1. Nail repair
    a. Capping a fragile tip
    b. Repairing a split nail
    c. Reattaching a broken nail tip
  2. Nail wrapping to fortify soft and fragile nails

S. Other nail problems

  1. A fringe of loose skin - trimming the cuticle too close
  2. Callous growth - use pumice powders and creams
  3. Stains on nails - pumice powder and nail bleach or peroxide

T. Artificial nails

  1. To conceal broken or damaged nails
  2. To improve the appearance of very short or badly shaped nails
  3. To overcome the habit of nail biting
  4. To protect a nail or nails against splitting or breakage

U. Procedure for build-on artificial nails
V. Removing build-on artificial nails
W. Safety

  1. Clean brush in polish remover or solvent
  2. Clean mixing dish by lifting hardened content with pusher
  3. Make sure bottles are tightly capped when not in use
  4. Do not store product near heat, or use near open flame
  5. Do not apply to injured or inflammed skin

X. Procedure for press-on artificial nails
Y. Procedure for removing press-on artificial nails
Z. Pedicuring

  1. Care of the feet, toes, and toenails
  2. Abnormal foot conditions, such as corns, callouses, and ingrown nails should be treated by a podiatrist

UNIT: MANICURING - CONTINUED

TOPIC:

THEORY - CONTINUED

3. Ringworm of the foot (athlete's foot) is an infectious condition which can spread from one person to another
4. Itchy, colorless vesicles spread over the sole and between the toes
5. When the vesicles rupture, the skin becomes red and oozes
6. Do not treat or give a pedicure if above are present
7. Procedure for a pedicure includes foot massage

AA. Miscellaneous treatments

1. Leg massage
2. Removing hair from legs (see unit on Removal of Superfluous Hair)

BB. Hiding varicose veins

1. Recommend to a specialist
2. Suggest waterproof concealing products

CC. Nails and nail disorders - See following unit on Nails and Nail Disorders
DD. Sterilization and sanitation pertaining to State Board requirements

UNIT: THE NAIL AND DISORDERS OF THE NAIL

TOPIC:

TASK	THEORY	COMMUNICATION SKILLS	MATHEMATICS SKILLS	SCIENCE KNOWLEDGE	STUDENT OUTCOME
	Sterilization and sanitation to prevent the spread of bacteria	A. Outlining and note taking B. Writing skills (workbook) C. Pronunciation of terms D. Vocabulary E. Oral communication F. Inferencing G. Test taking skills H. Spelling		A. The nail 1. Reflects general health of the body 2. A healthy nail is firm, flexible and is slightly pink in color 3. An appendage of the skin 4. A horny, translucent plate that protects the tips of the fingers and toes 5. Onyx is the technical term for nail B. Composition 1. Composed of keratin 2. A protein substance that forms the base of all horny tissue 3. The nail plate contains no nerves or blood vessels C. Nail structure 1. Nail body or plate visible portion of nail that rests upon and is attached to the nail bed 2. Nail body extends from the root to the free edge 3. Nail plate is constructed in layers	Student will demonstrate a knowledge of the following on a written test 1. The structure and composition of nails 2. The structures adjoining and affecting nails 3. How nails are nourished 4. How nails grow 5. The various disorders and irregularities of patron's nails 6. How to recognize diseases of the nails that should not be treated in the beauty salon

UNIT: THE NAIL AND DISORDERS OF THE NAIL - CONTINUED

TOPIC:

SCIENCE KNOWLEDGE - CONTINUED

4. Nail root is at the base of nail underneath the skin
5. Nail root originates from a growing tissue known as the matrix
6. The free edge is the end portion of the nail plate that reaches over the fingertip

D. Structures adjoining the nail

1. Nail bed
   a. Portion of the skin upon which the nail body rests
   b. It is supplied with many blood vessels which provide nourishment for growth of the nail
   c. The nail bed is also supplied with nerves
2. Matrix
   a. Part of the nail bed that extends beneath the nail root
   b. Contains nerves, lymph, and blood vessels
   c. Produces the nail as its cells undergo a reproducing process
   d. The matrix will grow as long as it receives nutrition and remains in a healthy condition
   e. Nail growth will be retarded if an individual is in poor health, if a nail disorder or disease is present, or if there is an injury to the nail matrix
3. Lanula
   a. Half-moon located at the base of the nail
   b. The area underneath the lunula is the matrix
   c. The light color of the lunula may be due to the reflection of light where the matrix and the connective tissue of the nail bed join

E. Parts surrounding the nail

1. Cuticle is the overlapping epidermis around the nail - a normal cuticle should be loose and pliable
2. Eponychium is the extension of the cuticle at the base of the nail body which partly overlaps the lunula
3. Hyponychium is that portion of the epidermis under the free edge of the nail
4. Perionychium is that portion of the cuticle surrounding the entire nail border
5. Nail walls are the folds of skin overlapping the sides of the nail
6. Nail grooves are slits, or tracks, on the sides of the nail upon which the nail moves as it grows
7. The mantle is the deep fold of skin in which the nail root is embedded

UNIT: THE NAIL AND DISORDERS OF THE NAIL - CONTINUED

TOPIC:

SCIENCE KNOWLEDGE - CONTINUED

F. Nail growth

1. The growth of the nail is influenced by nutrition, health, and disease
2. The nail grows forward, starting at the matrix and extending over the tip of the finger
3. The average rate of growth in the normal adult is about 1/8" per month, growing faster in the summer than in winter
4. The nails of children grow more rapidly
5. The nails of elderly persons grow more slowly
6. The nail grows the fastest on the middle finger and slowest on the thumb
7. Although toenails grow more slowly than fingernails, they are thicker and harder

G. Nail malformation

1. If the nail is separated from the nail bed through injury, it becomes distorted and discolored
2. Should the nail bed be injured after the loss of a nail, a badly formed nail will result
3. The nails do not shed automatically nor periodically, as hairs
4. If the nail is torn off accidentally, or lost through infection or disease, it will be replaced only as long as the matrix remains in good condition
5. Replacement of the nails takes about four months

H. Various shapes of nails (see illustration in textbook)

I. Nail disorders

1. Diseases of the nail should never be treated by a manicurist
2. Simple nail irregularities can be treated by a manicurist
3. A patron having a nail condition where infection, soreness, or irritation is present should be referred to a physician

J. Nail irregularities

1. Corrugations or wavy ridges are caused by uneven growth of the nails, usually the result of illness or injury - Treatment - carefully buff the nails slightly with pumice powder
2. Furrows (depressions) in the nails may run either lengthwise or across the nails, usually the result of illness or an injury to the nail cells in or near the matrix - Treatment - great care when giving a manicure, nails are fragile and avoid the use of metal pusher

SCIENCE KNOWLEDGE - CONTINUED

3. Leuconychia (white spots) are caused by injury to the base of the nail
4. Onychauxis or hypertrophy, is an overgrowth of the nail, usually in thickness caused by internal disturbance, such as local infection - Treatment - file it smooth and buff with pumice powder
5. Onychatrophis, atrophy or wasting away - nail loses luster and becomes smaller, caused by injury or disease - Treatment - file nail smooth and avoid strong soaps
6. Pterygium is a forward growth of the cuticle that adheres to the base of the nail - Treatment - oil manicures and use cuticle nippers to remove growth
7. Onychophagy or bitten nails is a result of an acquired nervous habit - Treatment - frequent manicures to help overcome this habit
8. Onychorrhexis refers to split or brittle nails, caused by injury to the nail, careless filing, and excessive use of cuticle solvents and nail polish removers - Treatment - oil manicures
9. Hangnail (agnail) is a condition to which the cuticle splits around the nail, caused by dryness, cutting off too much cuticle, or careless removing of the cuticle - Treatment - proper nail care and oil manicures
10. Eggshell nails are thin, white, and more flexible than normal nails
    a. The nail plate separates from the nail bed and curves at the free edge
    b. May be caused by chronic illness or systemic or nervous origin
11. Blue nails are caused by poor blood circulation or a heart disorder
12. A bruised nail will show dark, purplish (almost black or brown) spots in the nail, usually due to injury and bleeding in the nail bed - the dried blood attaches itself to the nail and grows out with it - Treatment - treat nail gently and avoid pressure
13. Treating cuts - apply antiseptic, do not buff or apply nail polish to the injured finger
14. Infected finger - the patron should be referred to a physician

G. Nail diseases

1. Nail diseases that show signs of infection or inflammation (redness, pain, swelling, or pus) must not be treated in a beauty salon
2. Onychosis is a technical term applied to any nail disease
3. Anychomycosis, tinea ungerium, ringworm of the nail is an infectious disease caused by vegetable parasites
    a. Consists of whitish patches that can be scraped off or long yellowish streaks within the nail substances

TOPIC:

SCIENCE KNOWLEDGE - CONTINUED

  - b. The disease invades the free edge and spreads towards the root
  - c. Another form, the deeper layers of the nail are invaded, causing the superficial layers to appear irregularly thin
  - d. These infected layers peel off and expose the diseased parts of the nail bed

4. Ringworm (tinea) of the hands is a highly contagious disease caused by a fungus (vegetable parasite)
   - a. Symptoms are papular, red lesions occuring in patches or rings over the hand
   - b. Itching may be slight or severe
5. Ringworm of the feet (athlete's foot)
   - a. Itchy, colorless vesicles appear
   - b. They spread over the sole and between the toes
   - c. When the vesicles rupture, the skin becomes red and oozes
   - d. Prevention and treatment are accomplished by keeping the skin cool, dry, and clean
6. Paronychia, or felon, is an infectious and inflammatory condition of the tissues surrounding the nails, caused by bacterial infection
7. Onychia is an inflammation of the nail matrix accompanied by pus formation - improper sanitization of nail implements and bacterial infection may cause this disease
8. Onychocryptosis, ingrown nails, may affect either the finger or toe
   - a. Nail grows into the sides of the flesh and may cause an infection
   - b. Filing the nails too much in the corners and failing to correct hangnails often are responsible for ingrown nails
9. Onychoptosis is the periodic shedding of one or more nails, either in whole or in part - this condition may follow certain diseases
10. Onycholysis is a loosening of the nail, without shedding - it is frequently associated with an internal disorder
11. Onychophyma denotes a swelling of the nail
12. Onychophosis refers to a growth of horny epithelium in the nail bed
13. Onychogryposis pertains to enlarged and increased curvature of the nails

UNIT: THEORY OF MASSAGE

TOPIC:

TASK	THEORY	COMMUNICATION SKILLS	MATHEMATICS SKILLS	SCIENCE KNOWLEDGE	STUDENT OUTCOME
Massage the face with the following movements 1. Effleurage 2. Petrissage 3. Friction 4. Tapotement 5. Vibration		A. Outlining and note taking B. Writing skills (workbook) C. Pronunciation of terms D. Vocabulary E. Oral communication F. Test taking skills G. Spelling		A. Massage 1. Used to exercise facial muscles, maintain muscle tone, and stimulate circulation 2. Must have knowledge of anatomy and physiology 3. Massage involves the application of manipulation to the head and body, accomplished manually or with the use of electrical appliances, such as therapeutic lamps, high-frequency current, facial steamers, heating caps, scalp steamers, and vibrators B. Areas of massage The cosmetologist's services are limited to only certain areas of the body a. Scalp b. Face c. Neck d. Shoulders e. Upper chest f. Back g. Hands h. Arms	A. The student will demonstrate a knowledge of massage on a written test B. The student will demonstrate a knowledge of manipulation used in massage and its beneficial results on a written test C. The student will demonstrate a knowledge of the various types of massage movements and how they are applied on a written test D. The student will demonstrate a knowledge of the motor nerve points of the face and neck on a written test E. The student will demonstrate a knowledge of the physiological effects of a massage on a written test F. The student will perform the various massage movements

UNIT: THEORY OF MASSAGE - CONTINUED

TOPIC:

SCIENCE KNOWLEDGE - CONTINUED

C. Massage cautions

1. Do not give a massage when certain conditions exist, such as a heart condition, high blood pressure, inflammed and swollen jionts, or glandular swelling
2. Nor should a massage be given when abrasions of the skin, skin disorders, or broken capillaries are evident

D. Qualifications

1. Strong, flexible hands
2. A quiet temperment
2. Self-control
4. Use of psychology
5. Keep hands soft, nails smooth
6. Wrists and fingers should be flexible, and palms firm, warm, and dry
7. Cream should be applied to permit better hand movements and prevent drag or damage to the patron's skin

E. How manipulative movements are accomplished

1. Every massage treatment combines one or more of the basic movements
2. The result of a massage treatment will depend on the amount of pressure, the direction of movement, and the duration of each type of manipulation
3. Direction of movement is from the insertion of a muscle toward its origin
4. The origin of a muscle is the fixed attachment of one end of that muscle to a bone or tissue
5. The insertion is the attachment of the opposite end of the muscle to another muscle, or to a moveable bone or joint
6. Caution - massaging a muscle in the wrong direction (from its origin to its insertion) could result in the loss of resiliency and the sagging of the skin and muscles

F. Basic manipulations used in massage

1. Effleurage (stroking movement) is a light, continuous movement applied with the fingers and palms in a slow and rhythmic manner with no pressure being used
2. Petrissage (kneading movement) - is the squeezing, rolling, or pinching of the tissues with a light, firm pressure

SCIENCE KNOWLEDGE - CONTINUED

3. Friction (deep rubbing movement) - requires pressure on the skin while it is being moved over the underlying structures - friction has a marked influence on the circulation and glandular activity of the skin
4. Percussion or tapotement movement consists of tapping, slapping, and hacking movements - this form of massage is the most stimulating and should be applied with care and discretion
5. Vibration (shaking movement) - is accomplished by rapid muscular contractions in the arms of the cosmetologist, while the balls of the fingertips are pressed firmly on the point of application - this is a highly stimulating movement and should be limited to only a few seconds duration on any one spot
6. Muscular contractions can also be produced by the use of a mechanical vibrator

G. Motor nerve points of the face and neck

1. Facial nerve
    a. Temporal branch
    b. Main trunk
    c. Buccal branch
    d. Mandibular branch
2. Cervical nerve
3. Brachial plexus (Erb's point)
4. Posterior auricular nerve
5. Occipitalis nerve
6. Plexus nerve
7. Trapezius nerve

Every muscle and nerve has a motor point

H. Beneficial results may be obtained by proper facial and scalp massage

1. The skin and all its structures are nourished
2. Fat cells in the subcutaneous tissue are reduced
3. The skin is rendered soft and pliable
4. The circulation of the blood is increased
5. The activity of the skin glands is stimulated
6. The muscle fiber is stimulated and strengthened
7. The nerves are soothed and rested
8. Pain is sometimes relieved

TOPIC:

SCIENCE KNOWLEDGE - CONTINUED

I. Relaxation is achieved through light but firm, slow rhythmic movements
J. Body tissues are stimulated by movements of moderate pressure, speed and time
K. Body contours or fatty tissues are reduced by firm kneading or by fast, firm, and light slapping movements over a fairly long period of time
L. The frequency of facial or scalp massage depends on the condition of the skin or scalp, the age of the patron, and the condition to be treated

UNIT: FACIALS

TOPIC:

TASK	THEORY	COMMUNICATION SKILLS	MATHEMATICS SKILLS	SCIENCE KNOWLEDGE	STUDENT OUTCOME
A. Prepare patron B. Analyze the skin C. Apply cleansing cream D. Remove cleansing cream E. Steam face F. Apply massage cream G. Give facial manipulations (use infra-red lamp) H. Remove massage cream I. Apply astringent lotion J. Apply makeup K. Clean up L. If comedones - remove with extractor	A. Procedure for a plain facial B. Reminds and hints in facial massage 1. Try to get the patron to relax 2. Provide quiet atmosphere 3. Maintain a clean, orderly arrangement of supplies 4. Follow systematic procedure 5. If your hands are cold, warm them before touching the patron 6. Make sure your fingernails are not too long C. Safety with infra-red rays 1. Cover patron's eyes with cotton pads moistened with witch hazel 2. Expose the face to infra-red rays for not more than five minutes D. Facial procedure for oily skin and blackheads (comedones) E. Procedure for a facial for acne F. Caution - avoid the use of regular facial make up	A. Outlining and note taking B. Writing skills (workbook) C. Pronunciation of terms D. Vocabulary E. Inferencing F. Following manufacturers directions (products) G. Oral communication H. Test taking skills I. Spelling		A. Facial categories 1. Preservative - maintaining health, cleansing methods, increasing circulation, relaxing the nerves, activating the skin glands and metabolism through massage 2. Corrective - dryness, oiliness, blackheads, aging lines, and minor conditions of acne B. The beneficial effects of a facial 1. Cleansing the skin 2. Increasing circulation 3. Activating glandular activity 4. Relaxing the nerves 5. Maintaining muscle tone 6. Strengthening weak muscle tissue 7. Correcting certain skin disorders 8. Helping prevent the formation of wrinkles and aging lines 9. Softening and improving skin texture and complexion 10. Giving a youthful feeling	A. The student will know the beneficial effects of a facial, types of facials, materials and equipment used, and the various skin problems to be treated on a written test B. The student will perform various types of facials and be able to demonstrate the use of supplies, equipment, and facial manipulation

UNIT: FACIALS - CONTINUED

TOPIC:

TASK	THEORY	COMMUNICATION SKILLS	MATHEMATICS SKILLS	SCIENCE KNOWLEDGE	STUDENT OUTCOME
M. Application of packs and masks	G. Packs and masks 1. Packs for normal and oily skin 2. Masks for dry skin H. Bleach pack 1. Lighten freckles 2. Lightens dark circles I. Egg pack Cleanses the pores and tightens the skin J. Hot oil mask facial 1. Recommended for dry skin 2. Use infra-red lamp K. Reasons why a patron may find fault with a facial 1. Offensive body odor 2. Foul breath 3. Rough massage 4. Getting creams into eyes 5. Towels that are too hot 6. Breathing into the patron's face 7. Not being careful or sanitary 8. Not showing interest in patron's skin problems			C. Facial for dry skin 1. Caused by insufficient flow of sebum 2. Electrical current is recommended a. Infra-red rays b. Galvanic current c. Indirect high-frequency current D. Treatment for milia (whiteheads) 1. Treated by a dermatologist 2. Common skin disorder 3. Formation of sebaceous matter under the skin 4. Surface openings too small for excretions of sebum E. Facial for acne 1. Disorder of the sebaceous glands 2. Medical supervision needed 3. Reduce the oilness 4. Remove blackheads 5. Cleansing of the skin 6. Use medicated preparations 7. Regulated diet 8. Apply high-frequency current	

UNIT: FACIALS - CONTINUED

TOPIC:

TASK	THEORY	COMMUNICATION SKILLS	MATHEMATICS SKILLS	SCIENCE KNOWLEDGE	STUDENT OUTCOME
	9. Carelessness in removing creams 10. Not permitting the patron to relax 11. Being disorganized 12. Heavy, rough, or cold hands 13. Lack of rythm in facial manipulation 14. Massaging muscles in the wrong direction 15. Exerting too much pressure			F. Diet for acne 1. Hereditary and environmental factors 2. Aggravated by emotional stress and faulty diet 3. Avoid foods high in fats, starches, and sugars 4. Diet prescribed by a physician 5. Drink plenty of water 6. Follow personal hygiene habits	

UNIT: FACIAL MAKEUP

TOPIC:

TASK	THEORY	COMMUNICATION SKILLS	MATHEMATICS SKILLS	SCIENCE KNOWLEDGE	STUDENT OUTCOME
A. Apply cleansing cream B. Remove cleansing cream C. Apply astringent or freshener D. Apply moisturizer E. Apply foundation F. Apply eye shadow G. Apply eyeliner H. Apply eyebrow color I. Apply mascara J. Apply cheek color K. Apply powder L. Apply lip color	A. Makeup 1. Improves appearance 2. Emphasize good facial features 3. Minimize defects 4. No fixed pattern for makeup application B. Makeup preparation 1. Applied after a facial 2. Sit or stand to one side of the patron to apply C. Cosmetics used in facial makeup Skin tones determine color of foundations a. White b. Ivory c. Cream d. Pink e. Florid f. Sallow g. Olive h. Tan i. Brown j. Black D. Types of foundations 1. Cream - long lasting, for oily and dry skin types, natural look 2. Liquid - for quick and effective blending	A. Outlining and note taking B. Writing skills (workbook) C. Vocabulary D. Inferencing E. Oral communication F. Test taking skills G. Spelling	Charts for facial shapes		A. The student will know the kinds of makeup cosmetics and their purposes on a written test B. The student will demonstrate a basic makeup application and safety precautions to be exercised C. The student will demonstrate the technique for properly shaping the eyebrows

THEORY - CONTINUED

3. Cakes
   a. Conceals minor skin flaws
   b. Apply with moist sponge
   c. Effective for oily skin
   d. Use moisturizer if applying to dry skin

E. Skin blemishes

1. Stick foundation for covering minor blemishes
2. Blemish masking creams are similar to the pigmented foundation creams

F. Face powders

1. Conceal blemishes
2. Tone down coloring
3. Remove shine
4. Translucent powder will not turn color

G. Cheek colors

1. Liquid - blends well and is suitable for all types of skin
2. Cream - preferred for dry and normal skin
3. Dry (compact) - for a matte finish
4. Brush-on-powdered - applied with a brush

H. Lip color

1. Adds color
2. Corrects shape of lips
3. Stick, cream, and liquid form

I. Eye makeup

1. Eye shadow - compliments the eye
2. Eyeliner - worn close to the lashes
3. Eyebrow pencil
   a. Modify natural outline
   b. Fill in thin brows
   c. Correct misshapen brows

UNIT: FACIAL MAKEUP - CONTINUED

TOPIC:

THEORY - CONTINUED

J. Mascara
  1. Available in various shades
  2. Makes lashes look longer and fuller

K. Procedure for makeup application

L. Makeup for facial types
  1. Oval shape - retain the oval shape
  2. Pear shape - narrow forehead, wide jawline and chin - aim to create the illusion of width across the forehead and length in the face
  3. Long shape - long, narrow face with hollow cheeks - aim to create the illusion of width and a shorter face
  4. Square shape - straight forehead hairline and square jaw - aim to slenderize the appearance of the face and offset the squareness of the features
  5. Heart shape - wide forehead and narrow chinline - aim to minimize the width across the forehead and increase the width across the jawbone line
  6. Round shape - round hairline and round chinline - aim to slenderize the appearance of the face
  7. Diamond shape - narrow forehead, extreme width through the cheekbones, and narrow chin - aim to reduce the width across the cheekbone line

M. Corrective makeup
  1. Highlighting - emphasizes the facial features
  2. Shadow - dark shades to minimize prominent features
  3. Low forehead - apply a lighter foundation to the forehead
  4. Bulging forehead - apply a darker foundation
  5. Large or protruding nose - apply darker foundation to the nose, and a lighter foundation to the cheeks, avoid placing cheek color close to the nose
  6. Short and flat nose - apply a lighter foundation down the center of the nose, stopping at the tip, apply darker foundation to wide nostrils
  7. Broad nose - use a darker foundation on the sides of the nose and nostrils
  8. Protruding chin and receding nose - shadow chin with darker foundation, and a lighter foundation on the nose
  9. Small chin - use a lighter foundation
  10. Double chin - darker foundation on sagging portion and natural tone on the face

UNIT: FACIAL MAKEUP - CONTINUED

TOPIC:

A. Prepare patron
B. Select type of arch
C. Cover patron's eyes
D. Brush eyebrows
E. Soften eyebrows (hot water and cotton)
F. Remove hairs between brows
G. Remove hairs above the brow line
H. Remove hairs below brow
I. Apply astringent

THEORY - CONTINUED

N. Corrective makeup for the eyes

1. Round eyes - extend shadow beyond outer corners
2. Close-set eyes - lighter shade for the inner corners, darker shade of the outer corners
3. Bulging eyes - avoid high rounded eyebrows, apply shadow to prominent part of upper lid
4. Small eyes - extend shadow above, beyond, and below eyes
5. Eyes set too far apart - shadow the upper side of the eyelid
6. Deep-sunken eyes - very little shadow on lids nearest the temples, omit the part next to the nose and inner corners of the eyes
7. Dark circles - apply lighter foundation
8. Puffy eyes - dark foundation to the puffy area

O. Corrective makeup for lips

1. Balance upper and lower lip
2. Use lip pencil to correct shapes

P. Eyebrow arching

1. The natural arch of the eyebrow follows the bony structure, or the curved line of the orbit (eye socket)
2. Disorderly growth of hairs below and above the natural line should be removed

Q. Procedure and safety precautions for eyebrow arching

1. Wash hands before and after each patron
2. Properly drape patron
3. Sanitize all brushes and implements after each use
4. Sharpen eyebrown and eyeliner pencils after each use
5. Discard all disposable items, such as sponges
6. Use spatula to remove creams from containers
7. Keep fingernails round and smooth
8. Use a brush to apply lip color
9. Use an antiseptic on tweezed area to avoid infection
10. Protect patron's hair and skin from direct contact with facial chair

UNIT: FALSE EYELASHES

TOPIC:

TASK	THEORY	COMMUNICATION SKILLS	MATHEMATICS SKILLS	SCIENCE KNOWLEDGE	STUDENT OUTCOME
A. Measure and cut eyelashes B. Apply adhesive C. Apply eyelashes D. Apply individual eyelashes	A. Two basic types of false eyelashes 1. Strip eyelashes 2. Semi-permanent individual eyelashes 3. Human hair or synthetic B. Procedure for applying strip eyelashes C. Remove lashes with specially prepared lotions D. Individual eyelashes 1. Synthetic fiber 2. Apply one at a time 3. Will fall out with natural lash 4. Replace weekly E. Allergy test 1. Put a drop of adhesive behind ear 2. Attach a single eyelash to each eyelid F. Reminders on applying false eyelashes 1. Do not cement one false eyelash to tw natural eyelashes 2. Do not touch the eyelids with tweezer 3. Sanitize tweezers 4. Be careful when working around patron's eyes	A. Outlining and note taking B. Writing skills (workbook) C. Vocabulary D. Inferencing E. Oral communication F. Test taking skills G. Spelling			A. The student will know the types of eyelashes, procedure, and safety precaution on a written test B. The student will demonstrate the application of false eyelashes

UNIT: FALSE EYELASHES - CONTINUED

TOPIC:

TASK	THEORY	COMMUNICATION SKILLS	MATHEMATICS SKILLS	SCIENCE KNOWLEDGE	STUDENT OUTCOME
	5. Clean dried adhesive from tweezers with adhesive remover 6. Patron must sit up straight and face cosmetologist when adhesive remover is being used 7. Do not get any chemical into patron's eyes				

UNIT: SUPERFLUOUS HAIR REMOVAL

TOPIC:

TASK	THEORY	COMMUNICATION SKILLS	MATHEMATICS SKILLS	SCIENCE KNOWLEDGE	STUDENT OUTCOME
A. Prepare patron B. Cleanse skin C. Apply wax or a chemical depilatory D. Remove wax or chemical depilatory	A. Types of hair removal 1. Permanent 2. Temporary B. Electrolysis 1. Training for electrolysis - must be certified 2. Machines - have safety factors and automatically timed 3. Areas that may be treated - lips, chin, cheeks, arms, legs, body, eyebrows, hairline, and underarms 4. Areas not to be treated - eyelids, inside the ears, nostrils, or moles 5. Do not treat diabetic patrons C. Procedure for the shortwave method D. Reminders and hints on electrolysis 1. Hands, implements, and the area to be treated must be sanitized 2. Tell patron that after a treatment on legs or arms, tiny scales may appear	A. Outlining and note taking B. Writing skills (workbook) C. Pronunciation of terms D. Vocabulary E. Inferencing F. Oral communication G. Test taking skills H. Spelling I. Definitions pertaining to electrolysis 1. Electrolysis 2. Electrologist 3. Hypertrichosis 4. Hirsutris 5. Hirsutism		A. Permanent hair removal 1. Galvanic method - destroys the hair by decomposing the papilla 2. Shortwave method - destroys the hair by coagulating the papilla through a. Extensively used b. Quicker method c. One needle and finer than the needles used in the galvanic method B. Electric tweezer method 1. Electrically charged tweezer 2. Used to grasp a single strand of hair 3. The hair is used as a dielectric* material to transfer thermal radio frequency energy to the germinal matrix of the hair root for at least 30 seconds 4. Germinal matrix detaches from the papilla allowing the hair to shade out easily 5. No more than two hairs can be removed per minute	A. The student will know the classification of hair removal and the methods of permanent and temporary hair removal on a written test B. The student will demonstrate hair removal using a physical or chemical depilatory

*Dielectric is a term applied to a non-conducting material that transmits electric effects by induction, but not by conduction

UNIT: SUPERFLUOUS HAIR REMOVAL - CONTINUED

TOPIC:

TASK	THEORY	COMMUNICATION SKILLS	MATHEMATICS SKILLS	SCIENCE KNOWLEDGE	STUDENT OUTCOME
	3. Never remove hairs from areas where the skin shows signs of eruption, abrasion, or inflammation 4. Do not remove hairs from warts or moles 5. Never use force when inserting the needle 6. Work checkerboard pattern to remove hairs 7. Do not treat children 8. Instruct patron on how to care for his/her skin after treatment 9. Remind patron that some follicles have multiple hairs E. Temporary methods 1. Shaving - armpits, arms, and legs 2. Electric razor - apply pre-shaving lotion to reduce irritation 3. Tweezing - see chapter on facial makeup 4. Hair lightening - removing pigment from hairs to make them less visible			C. Wax depilatories 1. Physical 2. Wax 3. Hot and cold types of wax 4. May use on the chin, cheeks, upper lip, nape area, arms, and legs D. Safety precautions 1. Test temperature of wax before applying to patron 2. Protect patron's eyes 3. Do not use under the arms, over warts, on moles, abrasions, irritated or inflammed skin E. Chemical depilatories 1. Caustic chemical 2. Give a skin test to determine a sensitive reaction 3. Do not leave on more than 7 - 10 minutes 4. Cream, paste, or powder form	

UNIT: CELLS

TOPIC:

TASK	THEORY	COMMUNICATION SKILLS	MATHEMATICS SKILLS	SCIENCE KNOWLEDGE	STUDENT OUTCOME
		A. Outlining and note taking B. Writing skills (workbook) C. Pronunciation D. Vocabulary E. Inferencing F. Oral communication G. Test taking skills H. Spelling		A. To develop a general knowledge of how to care for the scalp, skin, hair, and nails B. The body is composed of cells, tissues, organs, and systems C. It is made up of one-fourth solid matter and three-fourths liquid D. Cells 1. Basic unit of all living things a. Humans b. Animals c. Plants d. bacteria 2. Every part of the body is composed of cells, which differ from each other in a. size b. shape c. structure d. function 3. A cell is a minute portion of a living substance containing protoplasm a. Colorless b. Jelly-like substance c. Food elements and water are present	A. The student will know the function of human cells on a written test B. The student will know the structure and composition of cells on a written test C. The student will know the growth and reproduction of cells on a written test D. The student will know the meaning and process of metabolism on a written test E. The student will know the function of body tissues, organs, and systems on a written test

UNIT: CELLS - CONTINUED

TOPIC:

SCIENCE KNOWLEDGE - CONTINUED

4. Two main parts of the cell
    a. Nucleus - found in the center and plays an important part of the reproduction of the cell
    b. Cytoplasm - found outside the nucleus and contains food materials for growth, reproduction, and self-repair of the cell
5. Protoplasm of the cells contain the following
    a. Nucleus - reproduction
    b. Cytoplasm - food for growth, reproduction and repair
    c. Centrosome - affects reproduction
    d. Cell membranes - permits soluble substances to enter and leave the cell

E. Metabolism

1. Chemical process where body cells are nourished and supplied with energy to carry on their activities
2. Two phases to metabolism
    a. Anabolism - building up of cellular tissues
    b. Catabolism - breaking down of cellular tissues

F. Cells have various duties

1. Create and renew all parts of the body
2. Assist in blood circulation
3. Carry food to blood
4. Control all body functions

G. Tissues

1. Composed of groups of cells of the same kind
2. Body tissue classification
    a. Connective tissue - support, protect, and bind tissues together
    b. Muscular tissue - contracts and moves various parts of the body
    c. Nerve tissue - carries messages to and from the brain, controls body functions
    d. Epithelial tissue - protective covering on body surfaces

UNIT: CELLS - CONTINUED

TOPIC:

SCIENCE KNOWLEDGE - CONTINUED

- 1.1 Skin
- 1.2 Mucous membrane
- 1.3 Lining of the heart
- 1.4 Digestive and respiratory organs
- 1.5 Glands

e. Liquid tissue - carries food, waste products, and hormones by means of the blood and lymph

H. Organs

1. Structures containing two or more different tissues that are combined to accomplish a specific function
2. Organs of the body
    - a. Brain - controls the body
    - b. Heart - circulates the blood
    - c. Lungs - supply oxygen to the blood
    - d. Liver - removes toxic products of digestion
    - e. Kidneys - excrete water and waste
    - f. Stomach and intestines - digest food

I. Systems

1. Groups of organs that cooperate for a common purpose
2. Skeletal system
    - a. bones
    - b. foundation of the body and protects
3. Muscular system
    - a. muscles
    - b. covers, shapes, and supports the skeleton
    - c. Produces movements of the body
4. Nervous system
    - a. Nerves
    - b. Controls and coordinates the functions of all the other systems
5. Circulatory system
    - a. Blood supply
    - b. Consists of arteries, veins, and capillaries
    - c. Carry blood from the heart to all parts of the body

UNIT: CELLS - CONTINUED

TOPIC:

SCIENCE KNOWLEDGE - CONTINUED

- d. Supplies body cells with food
- e. Carries away waste products

6. Endocrine system
   - a. Ductless glands
   - b. Composed of specialized glands which affect the growth, reproduction, and health of the body
7. Excretory system
   - a. Organs of elimination
   - b. Includes the kidneys, liver, skin, intestines, and lungs
   - c. Purifies the body by the elimination of waste products
8. Respiratory system
   - a. Lungs
   - b. Trachea (windpipe), bronchial tubes, and lungs
   - c. Supplies the body with oxygen and removes carbon dioxide
9. Digestive system
   - a. Stomach and intestines
   - b. Changes food into a soluble form, used by the cells of the body
10. Reproductive system

    Reproducing the human race

UNIT: THE SKIN AND DISORDERS OF THE SKIN

TOPIC:

TASK	THEORY	COMMUNICATION SKILLS	MATHEMATICS SKILLS	SCIENCE KNOWLEDGE	STUDENT OUTCOME
		A. Outlining and note taking B. Writing skills (workbook) C. Pronunciation of terms D. Vocabulary E. Oral communication F. Test taking skills G. Spelling		A. The skin 1. Largest organ of the body 2. Slightly moist, soft and flexible 3. Smooth and fine texture 4. Varies in thickness 5. Thinnest on eyelids 6. Thickest on palms and soles 7. Continued pressure may cause it to thicken or develop a callous 8. Scalp skin is similar except for larger and deeper hair follicles (longer hair on head) B. Histology of the skin 1. Two main divisions of the skin a. Epidermis - outer layer called the cuticle or scarf skin b. Dermis - inner layer called the derma, corium, or true skin	A. The student will know the structure and composition of the skin on a written test B. The student will know how the skin is nourished and what factors are involved in giving the skin its color, elasticity, and texture on a written test C. The student will know the functions of the skin and the nerves and glands contained in the skin on a written test D. The student will know the definitions of terms relating to skin disorders on a written test E. The student will know the disorders of the sebaceous and sudoriferous glands on a written test

SCIENCE KNOWLEDGE - CONTINUED

C. Epidermis

1. Protective covering of the body
2. Contains no blood vessels
3. Has many small nerve endings

D. Epidermis - contains the following layers

1. Stratum corneum
    a. Outer or horny layer
    b. Scale-like cells are shed and replaced
    c. Cells contain keratin
    d. Overlapping cells covered by a thin layer of oil (makes this layer almost waterproof)
2. Stratum lucidum
    a. Clear layer
    b. Small transparent cells which light can pass through
3. Stratum granulosum
    a. Granular layer
    b. Cells look like granules
    c. These cells are almost dead (change into horny substance)
4. Stratum guminativum
    a. Composed of several layers of differently shaped cells
    b. Responsible for the growth of the epidermis
    c. Contains skin pigment called melanin
    d. Protects cells from ultra-violet rays (of the sun or lamp)

E. Dermis

1. True skin
2. Highly sensitive
3. Vascular layer of connective tissue
4. Contains
    a. Blood vessels
    b. Lymph vessels
    c. Nerves
    d. Sweat glands
    e. Oil glands
    f. Hair follicles
    g. Arrector pili muscles

UNIT: THE SKIN AND DISORDERS OF THE SKIN - CONTINUED

TOPIC:

SCIENCE KNOWLEDGE - CONTINUED

h. Papillae

F. Dermis consists of two layers

- 1. Papillary layer (superficial layer)
  - a. Beneath the epidermis
  - b. Contains cone-shaped elastic tissue called papillae
  - c. Some papillae contain capillaries, others contain nerve fiber endings called tactile corpuscles
  - d. Contains melanin skin pigment
- 2. Reticular layer contains the following
  - a. Fat cells
  - b. Blood vessels
  - c. Lymph vessels
  - d. Oil glands
  - e. Sweat glands
  - f. Hair follicles
  - g. Arrector pili muscles

G. Subcutaneous tissue

- 1. Fatty layer beneath the dermis
- 2. Also called subcutis tissue
- 3. Varies in thickness according to age, health, and sex
- 4. Contours the body
- 5. Contains fat for energy
- 6. Protective cushion for outer skin
- 7. Circulation maintained by arteries and lymphatics

H. Skin nourishment

- 1. Blood and lymph supply nourishment, circulate through the skin
- 2. Materials for growth, nourishment, and repair of the skin, hair, and nails

I. Nerves of the skin

- 1. Motor nerve fibers - distributed to the arrector pili muscles - attached to the hair follicles
- 2. Sensory nerve fibers - react to heat, cold, touch, pressure, and pain
- 3. Secretory nerve fibers - distributed to the sweat and oil glands
  - a. Regulate excretion of perspiration
  - b. Control flow of sebum

UNIT: THE SKIN AND DISORDERS OF THE SKIN - CONTINUED

TOPIC:

SCIENCE KNOWLEDGE - CONTINUED

J. Skin elasticity
   1. Pliability depends on the elasticity of the dermis
   2. Aging skin - characteristic is loss of elasticity

K. Skin color
   1. Depends on blood supply and the deposit of melanin
   2. Varies in different people
   3. Hereditary trait and varies among races and nationalities

L. The glands of the skin
   1. Sudoriferous (sweat glands)
      a. More numerous on the palms, soles, forehead, and in the armpits
      b. Excretion controlled by the nervous system
      c. One to two pints eliminated daily
   2. Sebaceous (oil) glands
      a. Secrete sebum
      b. Lubricates the skin
      c. Preserves softness of the hair
      d. Found in all parts of the body except the palms and soles
      e. Sebum flows through the duct and sometimes hardens causing a blackhead

M. Functions of the skin
   1. Protection
      a. From injury
      b. Bacterial invasion
      c. Resistant in temperatures, minor injuries, many microbes, and chemically active substances
   2. Sensation
      a. Sensory nerve endings
      b. Responds to heat, cold, touch, pressure, and pain
      c. Minor burn is very painful
      d. Deep burn may be painless if nerves are destroyed
      e. Sensory endings situated near hair follicles (touch and pressure)

UNIT: THE SKIN AND DISORDERS OF THE SKIN - CONTINUED

TOPIC:

SCIENCE KNOWLEDGE - CONTINUED

3. Heat regulation
    a. Internal body temperature 98.6°F
    b. Blood and sweat glands adjust changes inside as changes occur outside
    c. Protects body from environment
    d. Body cooled by evaporation of sweat
4. Excretion
    a. Perspiration from sweat glands
    b. Water loss carries salt and other chemicals
5. Secretion
    a. Sebum from sebaceous glands
    b. Emotional stress may increase flow
    c. Excessive flow may produce seborrhea
6. Absorption
    a. Limited
    b. Face cream may enter through the skin and influence to a minor degree
    c. Fatty materials (lanolin creams) absorbed through hair follicles and sebaceous glands openings

N. Appendages of the skin

1. Hair
2. Nails
3. Sweat glands
4. Oil glands

O. Disorders of the skin

1. Recognize certain skin conditions
2. Treat in cooperation with a physician when necessary
3. Skin conditions not recognized should be referred to a physician
4. Inflammatory skin disorders (infections or not) should not be treated in the salon
5. Cosmetologist should protect his/her own health, as well as the health of the public

P. Definitions pertaining to skin disorders

1. Dermatology - study of the skin
2. Dermatologist - a skin specialist
3. Pathology - study of disease
4. Trichology - study of hair and its diseases

UNIT: THE SKIN AND DISORDERS OF THE SKIN - CONTINUED

TOPIC:

SCIENCE KNOWLEDGE - CONTINUED

5. Etiology - the study of the causes of disease
6. Diagnosis - recognition of a disease by its symptoms
7. Prognosis - foretelling of the probable cause of a disease

Q. Lesions of the skin

1. Structural change in the tissues caused by injury or disease
2. Three types
    a. Primary
    b. Secondary
    c. Tertiary
3. Symptom - sign of disease divided into two groups
    a. Subjective - symptoms can be felt as itching, burning, or pain
    b. Objective - symptoms can be seen as pimples, pustules, or inflammation

R. Definitions pertaining to primary lesions

1. Macule - discolored spot or patch (as freckles)
2. Papule - elevated pimple (no fluid) may develop pus
3. Wheal - itchy, swollen, lesion lasts a few hours (hives or bite of an insect)
4. Tubercle - solid lump larger than a papule, size varies from a pea to a hazel nut
5. Tumor - external swelling, varying in size, shape, and color
6. Vesicle - a blister with clear fluid (poison ivy produces small vesicles)
7. Bulla - blister containing watery fluid (larger than a vesicle)
8. Pustule - an elevation of the skin having an inflammed base, containing pus

S. Definitions pertaining to secondary lesions

1. Scale - epidermal flakes, dry or greasy (abnormal dandruff)
2. Crust - accumulation of serum and pus (scab on a sore)
3. Excoriation - a skin sore produced by scratching or scraping (raw surface due to the loss of the superficial skin after injury)
4. Fissure - crack in the skin (chapped hands or lips)
5. Ulcer - open lesion of the skin or mucous membrane of the body accompanied by pus or loss of skin depth
6. Scar - likely to form after the healing of an injury or skin condition
7. Stain - abnormal discoloration remaining after the disappearance of moles, freckles, or liver spots

SCIENCE KNOWLEDGE - CONTINUED

T. Definitions pertaining to disease

1. Disease - departure from a normal state of health
2. Skin disease - any infection of the skin
3. Acute disease - one manifested by symptoms of a more or less violent character and of a short duration
4. Infectious disease - one due to pathogenic germs
5. Contagious disease - one that is communicable by contact
6. Congenital disease - one that is present in the infant at birth
7. Seasonal disease - one that is influenced by the weather (prickly heat in the summer and forms of eczema in the cold weather)
8. Occupational disease - (dermalities) due to certain kinds of employment caused by coming in contact with cosmetics, chemicals, or tints
9. Parasite disease - caused by vegetable or animal parasites (pediculosis, ringworms)
10. Pathogenic disease - produced by disease-causing bacteria (staphyloccus, streptococuss, pus-forming bacteria)
11. Systemic disease - under or over functioning of the internal glands (may be caused by faulty diet)
12. Venereal disease - contagious disease acquired by contact with an infected person during sexual intercourse
13. Epidemic - the manifestation of a disease that attacks simultaneously a large number of persons living in a particular locality
14. Allergy - a sensitivity that certain persons develop to normally harmless substances
15. Inflammation - a skin disorder characterized by redness, pain, swelling, and heat

U. Disorders of the sebaceous glands

1. Comedones (blackheads) - masses of hardened sebum
2. Milia (whiteheads) - accumulation of sebaceous matter beneath the skin and associated with fine textured, dry types of skin
3. Acne - chronic inflammatory disorder of the sebaceous gland generally caused by microbic, but factors are adolescence and disturbance of the digestive tract
4. Seborrhea - excessive secretion of the sebaceous glands - an oily condition of the nose, forehead, or scalp

UNIT: THE SKIN AND DISORDERS OF THE SKIN - CONTINUED

TOPIC:

SCIENCE KNOWLEDGE - CONTINUED

5. Asteatosis - condition of dry, scaly skin, deficiency of sebum, due to old age or bodily disorders
6. Rosacea - chronic inflammatory congestion of the cheeks and nose, redness, dilation of the blood vessels, and the formation of papules and pustules - caused by poor digestion and over-indulgence in alcholic beverages, over-exposure to extreme climate, faulty elimination, and hyperacidity

V. Definitions pertaining to disorders of sudoriferous glands

1. Bromidrosis - foul smelling perspiration
2. Anidrosis - lack of perspiration (often result of fever or certain skin diseases)
3. Hyperidrosis - excessive perspiration caused by excessive heat or general body weakness (medical treatment)
4. Miliaria rubra - prickly heat, acute, inflammatory disorder of the sweat glands - small red vesicles accompanied by burning and itching - caused by exposure to excessive heat

W. Definitions pertaining to inflammations

1. Dematitis - inflammatory condition of the skin
2. Eczema - inflammation of the skin, acute or chronic, dry or moist lesions, accompanied by itching or a burning sensation - cause unknown - requires medical attention
3. Psoriasis - common, chronic inflammatory skin disease, lesions are round, dry patches covered with coarse, silvery scales - cause unknown - not contagious
4. Herpes simplex - fever blisters - eruption of a single or group of vesicles on a red swollen base - usually appear on the lips, nostrils, or other part of the face - indigestion may be one of the causes
5. Dermatitis venenata - allergies to ingredients in cosmetics, antiseptics, cold waving lotions, and aniline derivative tints - cause eruptive skin infections

X. Definitions pertaining to pigmentation of the skin

1. In abnormal conditions, pigment may come from inside or outside the body
2. Tan - excessive exposure to the sun

SCIENCE KNOWLEDGE - CONTINUED

3. Lentigenes or lentigo - freckles - small yellow to brown colored spots on parts exposed to sunlight and air
4. Stains - abnormal brown skin patches, circular or irregular shape - occur during aging after certain diseases, and after the disappearance of moles, freckles, and liver spots
5. Chloasma - increased deposits of pigment in the skin mainly found on the forehead, nose, and cheeks - also called liver spots
6. Naevus - birthmark - malformation of the skin due to pigmentation or dilated capillaries
7. Leucoderma - white patches in the skin due to confenital defective pigmentation - classified as:
    a. Vitiligo - acquired condition of leucoderma, affecting the skin or the hair
    b. Albinesm - congenital absence of melanin pigment in the body, including the skin, hair, and eyes
        1.1 Silky hair is white
        1.2 Skin is pinkish white and will not tan

Y. Definitions pertaining to hypertrophies (new growths)

1. Keratoma - callous - an acquired, round, thickened patch of epidermis, due to pressure friction on the hands and feet - if the thickness grows inward it is called a corn
2. Mole - a small brownish spot or blemish on the skin - believed to be inherited - large, dark hairs often occur in moles (do not treat or remove hair from mole)
3. Verrusa - technical term for wart - caused by a virus and is infectious can spread from one location to another, particularly along a scratch in the skin

TOPIC:

TASK	THEORY	COMMUNICATION SKILLS	MATHEMATICS SKILLS	SCIENCE KNOWLEDGE	STUDENT OUTCOME
		A. Outlining and note taking B. Writing skills (workbook) C. Pronunciation D. Vocabulary E. Oral communication F. Test taking skills G. Spelling H. Definitions		A. Anatomy 1. The study of the organs and systems of the body a. Muscles b. Bones c. Arteries 2. The cosmetologist will treat the head, face, neck, arms, and hand B. Histology 1. The study of the minute structure of the various parts of the body 2. Histology of the skin and its appendages a. Hair b. Nails c. Sweat and oil glands C. Physiology 1. The study of the functions or activities performed by the various parts of the body 2. The names of bones, muscles, arteries, veins, and nerves are seldom used in the salon	A. The student will know the structure and functions of the human body on a written test B. The student will know why a basic understanding of the various organs and systems and how they function will help to improve the skill of the cosmetologist on a written test C. The student will know the many tissues, organs, and systems of the human body and how they function on a written test D. The student will know how malfunction of a body system or organ can affect cosmetology services on a written test E. The student will know the effect of the various organs and systems on the general health of the patron on a written test

UNIT: ANATOMY - CONTINUED

TOPIC:

SCIENCE KNOWLEDGE - CONTINUED

3. An understanding of body structures will help make you more proficient in performing salon services

D. The skeletal system

1. Physical foundation of the body
2. Composed of differently shaped bones united by movable and immovable joints
3. Bone is the hardest structure of the body
    a. Composed of fibrous tissues firmly bound together
    b. Consists of one-third animal matter and two-thirds mineral matter
4. Osteology - study of bones, their structure, and functions
5. Functions of the bone
    a. Give shape and strength to the body
    b. Protect organs from injury
    c. Serve as attachments for muscles
    d. Act as levers for all bodily movements
6. Bones of the skull
    a. The skull is the skeleton of the head
    b. Oval, bony case that shapes the head and protects the brain
    c. The skull is divided into two parts
        1.1 The cranium, consisting of eight bones
        1.2 Skeleton of the face, consisting of fourteen bones
7. Eight bones of the cranium
    a. Occipital bone - lower back part of the cranium
    b. Two parietal bones - form the sides and top of the cranium
    c. Frontal bone forms the forehead
    d. Two temporal bones form the sides of the head in the ear region
    e. Ethmoid bones are light and spongy bones between the eyesockets and form part of the nasal cavities
    f. Sphenoid bone joins together all the bones of the cranium
8. Fourteen bones of the face
    a. Two nasal bones form the bridge of the nose
    b. Two lacrimal bones - small fragile bones located at the front part of the inner wall of the eyesockets
    c. Two zygomatic bones form the prominences of the cheeks
    d. Two maxillae - upper jawbones which join to form the whole upper jaw
    e. Manible - lower jawbone, largest and strongest bone of the face

TOPIC:

SCIENCE KNOWLEDGE - CONTINUED

9. Bones of the neck
    a. Hyoid bone - "V" shaped bone, in the front part of the throat (Adam's apple")
    b. Cervical vetebrae form the top part of the spinal column
10. Bones of the chest (thorax)
    a. Thorax (chest) - an elastic bony cage made up of the breat bone, spine, ribs, and connective cartilage
    b. Protects the heart, lungs, and other delicate internal organs
    c. This framework is held in place by 24 ribs, 12 on each side
11. Bones of the shoulder, arm, and hand
    Shoulder - each side of the shoulder is made up of one clavicle, and one scapula, forming the back of the shoulder
12. Arm, wrist, and hand
    a. Humerus - largest bone of the upper arm
    b. Ulna - large bone on the little finger side of the forearm
    c. Radius - small bone on the thumb side of the forearm
    d. The wrist or carpus - flexible joint composed of eight small bones, held together by ligaments
    e. The palm or metacarpus - consists of five long, slender bones called metacarpal bones
    f. The fingers, or digits - consist of three phalanges in each finger, and two in the thumb, totaling fourteen bones

E. The muscular system

1. Myology - study of the structure, functions, and diseases of the muscles
2. Muscular system covers shapes, and supports the skeleton
3. Its function is to produce all movements of the body
4. Muscular system consists of over five hundred muscles
5. Comprises 40 to 50% of the weight of the human body
6. Three kinds of muscular tissue
    a. Striated (striped) voluntary
    b. Non-striated (smooth) involuntary
    c. Cardiac (heart muscle) which is the heart itself, and is not duplicated anywhere else in the body
7. Origin, insertion, and belly of muscles
    a. When a muscle contracts and shortens, one of its attachments usually remains fixed and the other one moves

UNIT: ANATOMY - CONTINUED

TOPIC:

SCIENCE KNOWLEDGE - CONTINUED

- b. Origin - term applied to the more fixed attachment, such as muscles attached to bones or to some other muscle - muscles attached to the bones are usually referred to as skeletal muscles
- c. Insertion - term applied to the more movable attachment - muscles attached to a movable muscle, to a movable bone, or to the skin
- d. Belly of a muscle is the part between the origin and the insertion

8. Stimulation of muscles
    - a. Stimulated by any of the following
    - b. Chemicals (certain acids and salts)
    - c. Massage (hand massage, electric vibrator)
    - d. Electric current (high frequency faradic current)
    - e. Light rays (infra-red rays, ultra-violet rays)
    - f. Heat rays (heating lamps and heating caps)
    - g. Moist heat (steamers or steamed towels)
    - h. Nerve impulses (through the nervous system)
9. Muscles of the scalp
    - a. Epicranius (occipito-frontalis) muscle that covers the top of the skull consisting of two parts
        - 1.1 Occipitalis - back part
        - 1.2 Frontalis - front part
    - b. Aponeurosis - connecting tendon
10. Muscles of the eyebrow
    - a. Orbicularis oculi - completely surrounds the margin of the eyesocket and closes the eye
    - b. Corrugator - muscle beneath the frontalis and orbicularis oculi, and draws the eyebrow down and in - produces vertical lines, used for frowning
11. Muscles of the nose
    - Procerus - covers the bridge of the nose, depresses the eyebrow, and causes wrinkles across the bridge of the nose
12. Muscles of the mouth
    - a. Quadratus labi superioris - raises and draws back the upper lip, and elevates the nostrils, expressing distaste
    - b. Quadratus labi inferioris - depresses the lower lip and draws it to one side - expression of sarcasm
    - c. Buccinator - compresses the cheeks and expels air between the lips as in blowing
    - d. Caninus - raises the angle of the mouth, as in snarling
    - e. Mentalis - raises the lower lip, as in doubt or displeasure

SCIENCE KNOWLEDGE - CONTINUED

- f. Orbicularis oris - compresses, contracts, puckers, and wrinkles the lips, as in kissing or whistling
- g. Risorius - draws the corner of the mouth out and back, as in grinning
- h. Zygomaticus - elevates the lip, as in laughing

13. Muscles of the ear
    - a. Aricularis superior - above the ear
    - b. Auricularis posterior - behind the ear
    - c. Auricularis anterior - in front of the ear
14. Muscles of mastication - masseter and temporalis are muscles that coordinate in opening and closing the mouth - chewing muscles
15. Muscles of the neck
    - a. Platysma - depresses lower jaw and lip, expression of sadness
    - b. Sterno-cleido-mastoid - rotates the head and bends the head, as in nodding
16. Muscles that attach arms to the body
    - a. Trapezius - rotates the should blade and controls swinging movements of the arm
    - b. Pectoralis major and pectoralis minor cover the front of the chest and assist in swinging movements of the arm
17. Muscles of the shoulder, arm, and hand
    - a. Deltoid - covers the shoulder and lifts and turns the arm
    - b. Biceps - lifts forearm, flexes the elbow, and turns the palm downward
    - c. Triceps - extends the forearm forward
    - d. Pronators - turn the hand inward, so that the palm faces downward
    - e. Supinators - turn the hand outward and the palm upward
    - f. Flexors - bend the wrist, draw the hand up, and close the fingers toward the forearm
    - g. Extensors - straighten the wrist, hand, and fingers to form a straight line
18. Muscles of the hand
    - a. Abductor and adductor muscles located in the thumb and fingers, at the base of the digits
    - b. Abductor muscles separate the fingers
    - c. Adductor muscles draw them together

UNIT: ANATOMY - CONTINUED

TOPIC:

SCIENCE KNOWLEDGE - CONTINUED

F. The nervous system

1. Neurology is the branch of anatomy that deals with the nervous system and its disorders
2. Nervous system controls and coordinates the function of all the other systems
3. Every square inch of the body is supplied with fine fibers which we know as nerves
4. Main purpose in studying the nervous system
    - a. How to administer scalp and facial services
    - b. What effects these treatments have on the nerves in the skin and scalp
5. Divisions of the nervous system
    - a. Principle parts that compose the nervous system
        - 1.1 Brain
        - 1.2 Spinal cord
        - 1.3 Nerves
    - b. Three main divisions of the nervous system
        - 1.1 Cerebro-spinal - central nervous system
        - 1.2 Peripheral - nervous system
        - 1.3 Sympathetic (autonomic) nervous system
    - c. Cerebro-spinal nervous system consists of the brain and spinal cord with the following as its functions
        - 1.1 Controls consciousness and all mental activities
        - 1.2 Controls voluntary functions of the five senses: seeing, smelling, tasting, feeling, and hearing
        - 1.3 Controls voluntary muscle actions
    - d. Peripheral nervous system is made up of the sensory and motor nerve fibers that extend from the brain and spinal cord and are distributed to all parts of the body with its function being to carry messages to and from the central nervous system
    - e. Sympathic nervous system is related structurally to the cerebro-spinal (central) nervous system with its function being independent of the will
        - 1.1 Referred to as the autonomic nervous system (self-controlled)
        - 1.2 Operates breathing, circulation, digestions, and glandular activities
6. Nerve cells and nerves
    - a. Neuron (nerve cell) is the structural unit of the nervous system
    - b. Composed of a cell body and long and short fibers called cell processes
    - c. Cell body stores energy and food for the cell processes

UNIT: ANATOMY - CONTINUED

TOPIC:

SCIENCE KNOWLEDGE - CONTINUED

  - d. Nerves carry messages to and from various parts of the body
  - e. Nerves have thin origin in the brain and spinal cord

7. Types of nerves
  - a. Sensory nerves (afferent) carry messages from sense organs to the brain (touch, cold, heat, sight, hearing, taste, and smell)
  - b. Motor nerves (efferent) carry impulses from the brain to the muscles (produce movement)
  - c. Mixed nerves contain both sensory and motor fibers
  - d. Reflex - autonomic response to a stimulus (impulse through spinal cord to the brain, then back to muscle)

8. The brain
  - a. Largest mass of nerve tissue
  - b. Central power station of the body
  - c. Sends and receives messages

9. The spinal cord
  - a. composed of masses of nerve cells
  - b. Originates in the brain, extends down to the lower extremity of the trunk
  - c. Some spinal nerves supply the internal organs controlled by the sympathetic nervous system

10. Fatigue and nourishment
  - a. Worry, mental or muscular work can cause fatigue
  - b. Weariness, irritability, poor complexion, and dull eyes may be signs of nervous exhaustion
  - c. Appropriate massage manipulation can help relieve fatigue
  - d. Nourishment for the nerves is received through blood vessels, lymph spaces, and lymphatics found in the connective tissue surrounding them
  - e. Stimulation to the nerves causes muscles to contract and expand
  - f. Heat on the skin causes relaxation, cold causes contraction

11. Cranial nerves
  - a. There are twelve pairs of cranial nerves, all connected to a part of the brain surface, classified as motor, sensory, and mixed nerves, containing both motor and sensory fibers
  - b. First - olfactory controls sense of smell
  - c. Second - optic controls sense of sight
  - d. Third - oculomotor controls the motion of the eye
  - e. Fourth - trochlear controls the motion of the eye

SCIENCE KNOWLEDGE - CONTINUED

f. Fifth - trigeminal (trifacial) controls the sensations of the face, tongue, and teeth
g. Sixth - facial controls motion of the face, scalp, neck, ear, and sections of the palate and tongue
h. Eighth - acoustic (auditory) controls the sense of hearing
i. Ninth - glossopharyngeal controls the sense of taste
j. Tenth - vagus (or pneumogastric) controls motion and sensations of the ear, pharynx, larynx, heart, lungs, esophagus, etc.
k. Eleventh - accessory controls the motion of neck muscles
l. Twelfth - hypoglossal controls the motion of the tongue

12. Nerves of interest to the cosmetologist
The three cranial nerves in giving facial and scalp treatments
1.1 Fifth cranial (trifacial)
1.2 Seventh cranial (facial)
1.3 Eleventh cranial (accessory)

13. Nerves of the head, face, and neck
a. The fifth cranial (trifacial) is the largest of the cranial nerves
b. The following are branches of the fifth cranial nerve that are affected by massage
1.1 Supra - orbital nerve affects the skin of the forehead, scalp, eyebrow, and upper eyelid
1.2 Supra-trochlear nerve - affects the skin between the eyes and upper side of the nose
1.3 Infra-trochlear nerve - affects the membrane and skin of the nose
1.4 Nasal nerve - affects the point and lower side of the nose
1.5 Zygomatic nerve - affects the skin of the temple, side of the forehead, and upper part of the cheek
1.6 Infra-orbital nerve - affects the skin of the lower eyelid, side of the nose, upper lip, and mouth
1.7 Auriculo-temporal nerve - affects the external ear and skin above the temple, up to the top of the skull
1.8 Mental nerve- affects the skin of the lower lip and chin
c. The seventh (facial) nerve is the chief motor nerve of the face - of all the branches of the facial nerve, the following are the most important
1.1 Posterior auricular nerve - affects the muscles behind the ear at the base of the skull
1.2 Temporal nerve - affects the muscles of the temple, side of forehead, eyebrow, eyelid, and upper part of cheek

TOPIC:

SCIENCE KNOWLEDGE - CONTINUED

1.3 Zygomatic nerve (upper and lower) - affects the muscles of the upper part of the cheek
1.4 Buccal nerve - affects the muscles of the mouth
1.5 Mandibular nerve - affects the muscles of the chin and lower lip
1.6 Cervical nerve (branch of the facial nerve) - affects the side of the neck and the platysma muscle
1.7 Greater occipital nerve - affects the scalp as far up as the top of the head
1.8 Smaller occipital nerve - affects the scalp and muscles of this region
1.9 Cervical cutaneous nerve - affects the front and side of the neck as far down as the breast bone

14. Nerves of the arm and hand
    a. Ulnar nerve - (sensory motor) supplies the little finger side of the arm and the palm of the hand
    b. Radial nerve - (sensory motor) supplies the thumb side of the arm and the back of the hand
    c. Median nerve (sensory motor) supplies the arm and hand
    d. Digital nerves (sensory motor) supplies all fingers of the hand

G. The circulatory system

1. Circulatory or vascular system controls the circulation of the blood by means of the heart and the blood vessels
2. The vascular system is made up of two divisions
    a. The blood-vascular system which comprises the heart and blood vessels for the circulation of the blood
    b. The lymph-vascular (lymphatic) system consisting of lymph glands and vessels through which the lymph circulates
3. The heart
    a. The heart is an efficient pump which keeps the blood moving within the circulatory system
    b. It is enclosed in a membrane, the pericardium
    c. The vagus (tenth cranial nerve) and the nerves from the sympathetic nervous system regulate the heartbeat
    d. The heart beats about 72 - 80 times a minute

UNIT: ANATOMY - CONTINUED

TOPIC:

SCIENCE KNOWLEDGE - CONTINUED

e. The interior of the heart contains four chambers and four valves
f. Valves allow the blood to flow in only one direction
g. With each contraction and relaxation of the heart, the blood flows in and travels from the atria to the ventricles, and is then driven out to be distributed all over the body

4. Blood vessels
   a. The arteries, capillaries, and veins are tube-like in construction
   b. They transport blood to and from the heart
      1.1 Arteries are thick-walled muscular and elastic tubes that carry pure blood from the heart to the capillaries
      1.2 Capillaries are minute, thin-walled blood vessels that connect the smaller arteries to the veins in which the tissues receive nourishment and eliminate waste products through the walls
      1.3 Veins are thin-walled blood vessels that are less elastic than arteries which contain cup-like valves to prevent back flow, and carry impure blood from the capillaries back to the heart
5. Chief functions of the blood
   a. To carry water, oxygen, food, and secretions to all cells of the body
   b. To carry away carbon dioxide and waste products to be eliminated through the lungs, skin, kidneys, and large intestine
   c. To help to equalize the body temperature, thus protecting the body from extreme heat and cold
   d. To aid in protecting the body from harmful bacteria and infections, through the action of the white blood cells
   e. To clot the blood, thereby closing injured minute blood vessels and preventing the loss of blood
6. The circulation of the blood
   a. The blood is in constant circulation
   b. Two systems take care of this circulation
      1.1 Pulmonary circulation is the blood that goes from the heart to the lungs to be purified and then returns to the heart
      1.2 General circulation is the blood circulation from the heart throughout the body and back again to the heart
7. The blood
   a. Blood is the nutritive fluid circulating through the circulatory system
   b. It is a sticky, salty fluid with a temperature of 98.6° F.
   c. It makes up about one-twentieth of the weight of the body

UNIT: ANATOMY - CONTINUED

TOPIC:

SCIENCE KNOWLEDGE - CONTINUED

d. From eight to ten pints of blood fill the blood vessels of an adult
e. The color is bright red in the arteries and dark red in the veins
f. The blood is composed of one-third cells (red and white corpuscles and blood platelets) and two-thirds plasma
g. Red corpuscles carry oxygen to the cells
h. White corpuscles perform the function of destroying disease causing germs
i. Blood platelets are much smaller than red blood cells - they clot the blood
j. Plasma is the fluid part of the blood in which the red and white blood cells and blood platelets flow (about nine-tenths of the plasma is water)

H. The lymph-vascular system

1. Also called lymphatic system - acts as an aid to the nervous system, and consists of lymph spaces, lymph vessels, lymph glands, and lacteals
2. Lymph is a colorless watery fluid that circulates through the lymphatic system and is derived from the plasma of the blood, mainly by filtration
3. Arteries of the head, face and neck
    a. The common carotid arteries are the main sources of blood supply to the head, face, and neck
        1.1 Internal division supplies the brain, eyesockets, eyelids, and forehead
        1.2 External division supplies the superficial parts of the head, face, and neck
    b. Facial artery (external maxillary) supplies the lower region of the face, mouth, and nose - some of its branches include
        1.1 Submental artery - supplies the chin and lower lip
        1.2 Inferior labial artery supplies the lower lip
        1.3 Angular artery supplies the side of the nose
        1.4 Superior labial artery supplies the upper lip, septum, and wing of the nose
    c. Superficial temporal artery is a continuation of the external carotid artery, which supplies muscles, skin, and scalp to front, side, and top of the head - some of its branches include
        1.1 Frontal artery supplies the forehead
        1.2 Parietal artery supplies the crown and side of the head
        1.3 Transverse facial artery supplies the masseter

UNIT: ANATOMY - CONTINUED

TOPIC:

SCIENCE KNOWLEDGE - CONTINUED

1.4 Middle temporal artery supplies the temples
1.5 Anterior auricular artery supplies the anterior part of the ear

d. The supra-orbital artery (branch of the internal carotid artery) supplies part of the forehead, the eyesocket, eyelid, and upper muscles of the eye
e. Infra-orbital artery supplies the muscles of the eye
f. Occipital artery supplies the back of the head, up to the crown
g. Posterior auricular artery supplies the scalp, back and above the ear, and skin behind the ear

4. Veins of the head, face and neck
   The blood returning to the heart from the head, face, and neck flows on each side of the neck in two principle veins
   1.1 The internal jugular
   1.2 The external jugular
5. Blood supply for the arm and hand
   a. The ulnar and radial arteries are the main blood supply for the arms and hand
   b. The ulnar artery and its branches supply the finger side of the arm and the palm of the hand
   c. The radial artery and its branches supply the thumb side of the arm and the back of the hand

I. The endocrine system

1. Glands are specialized organs that vary in size and function
2. The nervous system controls the functional activities of the glands
3. The glands have the ability to remove certain constituents from the blood and to convert them into new compounds
4. There are two main sets of glands
   a. Duct glands possessing canals that lead from the gland to a particular part of the body (sweat and oil glands and intestinal glands belong to this group)
   b. Ductless glands have their secretions thrown directly into the blood stream, which in turn influence the welfare of the entire body

J. The excretory system

1. Purifies the body by the elimination of waste matter
2. The kidneys excrete urine

SCIENCE KNOWLEDGE - CONTINUED

3. The liver discharges bile pigments
4. The skin eliminates perspiration
5. The large intestines evacuates decomposed and undigested food
6. The lungs exhale carbon dioxide
7. Metabolism of the cells of the body forms various toxic substances which, if retained, would have a tendency to poison the body

K. The respiratory system

1. Respiratory system (chest cavity) is protected on both sides by the ribs
2. The diaphragm, a muscular partition that controls breathing, separates the chest from the abdominal region
3. The lungs are spongy tissues composed of microscopic cells into which the inhaled air penetrates
4. With each respiratory cycle, an exchange of gases takes place
    a. During inhalation, oxygen is absorbed into the blood
    b. Carbon dioxide is expelled during exhalation
5. Oxygen is required to change food into energy
6. Oxygen is more essential than either food or water
7. Nose breathing is healthier than mouth breathing because air is warmed by the surface capillaries, and the bacteria in the air are caught by the hairs that line the mucous membrances of the nasal passages
8. Abdominal breathing is of value in building health which means deep breathing which brings the diaphragm into action, the greatest exchange of gases is accomplished in abdominal breathing

L. The digestive system

1. Digestive system changes food into soluble form for use by cells of the body
2. Digestion starts in the mouth and completed in the small intestine
3. From the mouth, the food passes down the pharynx and the esophagus (foodpipe) and into the stomach
4. The food is completely digested in the small intestine
5. The large intestine (colon) stores the refuse for elimination through the rectum
6. The complete digestive process of food takes about nine hours
7. Responsible for the chemical changes in food are the enzymes present in the digestive secretions

UNIT: ANATOMY - CONTINUED

TOPIC:

SCIENCE KNOWLEDGE - CONTINUED

8. Digestive enzymes are chemicals that change certain kinds of food into a form capable of being used by the body
9. Intense emotions, excitement, and fatigue seriously disturb digestion

TOPIC:

TASK	THEORY	COMMUNICATION SKILLS	MATHEMATICS SKILLS	SCIENCE KNOWLEDGE	STUDENT OUTCOME
		A. Outlining and note taking B. Writing skills (workbook) C. Pronunciation D. Vocabulary E. Oral communication F. Test taking skills G. Spelling		A. Electricity 1. Form of energy 2. Produces magnetic, chemical, and heat effects 3. An electric current is the movement of electricity along a conductor 4. An electric wire is composed of twisted fine metal threads (conductor) covered with rubber or silk (insulator or non-conductor) 5. Conductor - readily transmits an electric current 6. Most metals, carbon, the human body, and watery solutions of acids and salts are good conductors of electricity 7. Electrodes composed of good conductors, serve as points of contact when electricity is applied to the body 8. A nonconductor or insulator is a substance that resists the passage of an electric current such as rubber, silk, dry wood, glass, cement, or asbestos	A. The student will know forms of electricity on a written test B. The student will know the different types of currents on a written test C. The student will know the various types of electrical equipment available for use in the beauty salon and the benefits of each on a written test D. The student will know safety practices when using electricity on a written test

TOPIC:

SCIENCE KNOWLEDGE - CONTINUED

B. Forms of electricity

1. Two forms of electricity are used
   a. Direct current (DC) is a constant and even flowing current, traveling in one direction
   b. Alternating current (AC) is a rapid and interrupted current, flowing first in one direction and then in the opposite direction
2. A converter is an apparatus used to convert direct current into an alternating current
3. A rectifier is used to change an alternating current to a direct current
4. A complete circuit of electricity is the entire path traveled by the current from its generating source through various conductors (wire, electrode, or body) and back to its original source
5. A fuse is a safety device that prevents the overheating of electric wires which blows out when the circuit is overloaded with too many connections on one wire or when faulty equipment is used

C. Electrical measurement

1. Volt (V) is the unit of pressure which forces the current forward
2. Ampere (A) is the unit of current flow (strength)
3. Ohm (O) is the unit of resistance to the flow of current
4. Instead of the ampere which is too strong, the milliampere, 1/1000th part of an ampere, is used for facial and scalp treatments
5. Milliamperemeter is an instrument for measuring the rate of flow of an electric current

D. Electrical currents

1. Galvanic current is a constant and direct current rectified to a safe low voltage level
   a. Chemical changes produced when current is passed through solution containing acid or salts
   b. Chemical effects are produced when a galvanic current is passed through the tissues and fluids of the body
2. Test for polarity
   a. Opposite poles in an electric current
   b. Positive and negative pole
   c. Mose electrical appliances have a polarity indicator

UNIT: ELECTRICITY AND LIGHT THERAPY - CONTINUED

TOPIC:

SCIENCE KNOWLEDGE - CONTINUED

   d. See test for polarity - the effects of the positive pole on the body are just the opposite of those produced by the negative pole
3. Positive pole (anode)
   a. Produces acidic reaction
   b. Soothes nerves
   c. Decreases blood supply
   d. Hardens tissues
4. Negative pole (Cathode)
   a. Produces alkaline reaction
   b. Stimulates nerves
   c. Increases blood supply
   d. Softens tissues
5. The positive pole may be used for the following
   a. To close the pores after a facial treatment
   b. Decrease redness, as in mild acne
   c. Prevent inflammation after comedone and blemish treatment
   d. Force acid pH solutions, such as astringents, into the skin
6. The negative pole may be used for the following
   a. Stimulate the circulation of blood to dry skin and scalp
   b. Force alkaline pH solution into the skin
7. Caution
   Do not use the negative galvanic current over skin with broken capillaries, acne condition, or on a patron with high blood pressure
8. The effects of the galvanic current are experienced by the patron as the current passes through him or her
   a. Active electrode - applied by the cosmetologist, is connected to the particular pole whose action is desired
   b. Inactive electrode is held by the patron and is connected to the other pole
   c. Both the active and inactive (positive and negative) poles must be in use to complete the circuit through the patron
9. Faradic current
   a. Faradic current is an alternating and interrupted current producing a mechanical reaction without a chemical effect
   b. Causes muscular contractions
   c. Used during scalp and facial manipulation

UNIT: ELECTRICITY AND LIGHT THERAPY - CONTINUED

TOPIC:

SCIENCE KNOWLEDGE - CONTINUED

10. Caution
    a. Do not use if it causes pain or discomfort, if patron has gold filled teeth, high blood pressure, or broken capillaries
    b. Benefits derived from the use of faradic current
        1.1 Improves muscle tone
        1.2 Promotes removal of waste products
        1.3 Increases circulation of the blood
        1.4 Relieves congested blood
        1.5 Increases glandular activity
        1.6 Stimulates hair growth
11. Sinusoidal current
    a. Resembles faradic current
    b. Alternating current
    c. Produces mechanical contractions in muscles
12. Advantages
    a. It supplies greater stimulation, deeper penetration, and less irritation than faradic current
    b. It soothes the nerves, and penetrates into the deeper muscle tissue
    c. Best suited for the nervous type of patron
13. Do not use the sinusoidal current if
    a. The face is very flushed
    b. Broken capillaries in the skin
    c. High blood pressure
    d. Pustular condition of the skin
14. Caution
    The faradic and sinusoidal currents are never used longer than fifteen to twenty minutes on a patron
15. High-frequency current
    a. Characterized by a high rate of oscillation
    b. Tesla current (the violet ray) used by the cosmetologist for scalp and facial treatments
        1.1 Primary action - heat producing
        1.2 No muscular contractions
        1.3 Stimulating or soothing
    c. The electrodes for high-frequency current are made of glass or metal, as the current passes through the glass electrode, tiny violet sparks are emitted
    d. About five minutes should be allowed for a facial or scalp treatment

UNIT: ELECTRICITY AND LIGHT THERAPY - CONTINUED

TOPIC:

SCIENCE KNOWLEDGE - CONTINUED

16. Methods of application
    a. Direct surface application
    b. Indirect application
    c. General electrification
    d. When applying high-frequency current along with skin and scalp lotions containing an alcoholic content, you must apply the electricity first, and then the lotion
17. Benefits derived from the use of tesla high-frequency current
    a. Stimulates circulation of the blood
    b. Increases glandular activity
    c. Aids in elimination and absorption
    d. Increases metabolism
    e. Germicidal action occurs during use

E. Electrical equipment

1. Vibrator is used in massage to produce mechanical succession of manipulations
    a. Stimulating effect on muscular tissue
    b. Increases blood supply
    c. Soothing to the nerves
    d. Increases glandular activities
    e. Stimulates the functions of the skin and scalp
    f. The vibrator should never be used where there is a weakness of the heart, or in cases of fever, abscesses, or inflammation
2. Steamer or vaporizer is applied over head or face to produce a moist, uniform heat
3. Electrically heated curling irons
    a. Built in heating elements
    b. Used to curl the hair
    c. Perforated type of iron curls and conditions the hair (oil is injected into the barrel)
4. Heating caps
    a. Uniform source of heat
    b. Main use is a part of corrective treatments for the hair and scalp
    c. Recondition dry, brittle, and damaged hair
    d. Activate a sluggish scalp

TOPIC:

SCIENCE KNOWLEDGE - CONTINUED

5. Processing or accelerating machine reduces processing time for lightening and tinting
6. Electric chair hair dryer delivers hot, medium, or cold air for the proper drying of hair
7. The small electric oil heater is used to heat oil when giving an oil manicure

F. Light therapy

1. Light therapy refers to treatment by means of light rays
2. Light or electrical waves travel at a speed of 186,000 miles per second
3. In salon work, cosmetologists are concerned with three types of light rays
    - a. Infra-red (produces heat)
    - b. Ultra-violet (produces chemical and germicidal reaction)
    - c. Visible lights (contained within the sun's rays)
4. If a ray of sunshine is passed through a glass prism, it will appear in seven different colors (the rainbow) red, orange, yellow, green, blue, indigo, and violet - these colors, visible to the eye, constitute the visible rays, comprising about 12% of sunshine
5. At either end of the visible spectrum are rays of the sun that are invisible to us - the rays beyond the violet are the ultra-violet rays which are the shortest and least penetrating rays of the spectrum comprising about 8% of sunshine (the action of these rays is both chemical and germicidal)
6. Beyond the red rays of the spectrum are the infra-red rays which are pure heat rays, comprising about 80% of sunshine

G. How light rays are reproduced

1. Therapeutic lamp produces certain light rays
    - Ultra-violet lamps
        - 1.1 Glass bulb lamp for cosmetic and tanning purposes
        - 1.2 Hot quartz lamp for tanning, health, cosmetic, or germicidal purposes
        - 1.3 Cold quartz lamp - short ultra-violet rays (used primarily in hospitals)
2. Protecting the eyes
    - a. Patron - cotton pads saturated with a boric acid solution or witch hazel
    - b. Patron and cosmetologist should wear safety eye goggles when using ultra-violet rays

UNIT: ELECTRICITY AND LIGHT THERAPY - CONTINUED

TOPIC:

	SCIENCE KNOWLEDGE - CONTINUED	
	3. Ultra-violet rays a. Invisible rays b. Chemical and germicidal action c. Plant and animal life need ultra-violet rays for healthy growth d. Increases resistance to disease (increases iron and vitamin D and red and white cells in the blood) e. Increase elimination of waste products f. Restore nutrition g. Stimulate circulation h. Improve flow of blood and lymph 4. Infra-red rays use and effects on exposed areas a. Heat and relax the skin without increasing temperature of the body b. Dilate blood vessels in the skin thereby increasing blood flow c. Increase metabolism and chemical changes within skin tissues d. Increase the production of perspiration and oil on the skin e. Relieve pain 5. Cautions a. Lamp distance of 30" b. Protect patron's eyes c. Break the path of the rays to avoid exposure to the skin for not more than a few seconds at a time d. Limit length of exposure to about five minutes 6. Visible lights a. Lamp used to reproduce visible lights b. Protect patron's eyes c. White light (white bulb) 1.1 Relieves pain 1.2 Use on congested areas, around nerve centers such as in the back of the neck and across the shoulders d. Blue light (blue bulb) 1.1 Tonic effect on bare skin 1.2 Soothing effect on the nerves 1.3 Contains few heat rays 1.4 Do not use creams, oils, or powders e. Red light (red bulb) 1.1 Strong heat rays 1.2 Stimulating effect on the skin 1.3 Heat rays aid in penetration of cosmetic creams into the skin 1.4 Recommended for dry, scaly skin	

UNIT: CHEMISTRY

TOPIC:

TASK	THEORY	COMMUNICATION SKILLS	MATHEMATICS SKILLS	SCIENCE KNOWLEDGE	STUDENT OUTCOME
		A. Outlining and note taking B. Writing skills (workbook) C. Pronunciation D. Vocabulary E. Oral communication F. Test taking skills G. Spelling		A. Science chemistry 1. Science that deals with the composition, structure, and properties of matter, and how matter changes under different chemical conditions 2. Organic chemistry is the branch of chemistry that deals with all substances in which carbon is present, such as a. All plants b. Animals c. Petroleum d. Soft coal e. Natural gas f. Many artificially prepared substances B. Organic substances 1. Will burn 2. Not soluble in water 3. Are soluble in organic solvents, example alcohol and benzene 4. Examples of organic substances a. Grass b. Trees c. Gasoline d. Oil e. Soaps f. Detergents	The student will know a basic knowledge of chemistry as an essential requirement for an understanding of the various products and cosmetics being used in the beauty salon on a written test

UNIT: CHEMISTRY - CONTINUED

TOPIC:

SCIENCE KNOWLEDGE - CONTINUED

- g. Plastics
- h. Antibiotics

C. Inorganic chemistry

1. The branch of chemistry that deals with all substances that do not contain carbon
2. Will burn
3. Usually soluble in water
4. Examples
    - a. Water
    - b. Air
    - c. Iron
    - d. Lead
    - e. Iodine

D. Matter

1. Matter is anything that occupies space
2. Exists in three physical forms
    - a. Solids - hair, desks, chairs, walls
    - b. Liquids - water, shampoo, lotions, hair tonics
    - c. Gases - the air you breath

E. Atoms

1. The smallest particle of an element that can exist and still retain the properties of the element
2. An atom of hydrogen has the properties of hydrogen
3. Should this atom be shattered, it would no longer possess the properties of hydrogen

F. Molecules

1. The smallest particle of an element or compound that possess all the properties of the element or compound
2. If the molecule is of an element, the atoms are the same
3. If it is a compound, the atoms are different

UNIT: CHEMISTRY - CONTINUED

TOPIC:

SCIENCE KNOWLEDGE - CONTINUED

4. Example - A molecule of hydrogen contains two or more atoms of hyrdogen, whereas a molecule of the compound of water is composed of two atoms of hydrogen and one atom of oxygen (H_2O)

G. Chemical activity - chemical activity of an element refers to the tendency of its atoms to combine with other elements

H. Forms of matter

1. Elements - basic unit of all matter and cannot be made by the combination of simpler substances, and the element itself cannot be reduced to simpler substances
2. More than 103 elements
3. More common are iron, sulfur, oxygen, zinc, and silver

I. Compounds

1. When two or more elements unite chemically, they form a compound
2. Each element loses its characteristic properties and the new compound develops its own individual properties
3. Compounds are divided into four classes
   a. Oxides - compounds of any element combined with oxygen
   b. Acids - compounds of hydrogen, a non-metal, such as nitrogen, and sometimes oxygen
   c. Bases (also known as alkalies) - compounds of hydrogen, a metal, and oxygen
   d. Salts - compounds that are formed by the reaction of acids and bases, with water also produced by the reaction

J. Mixtures - a substance that is made up of two elements combined physically rather than chemically

K. Changes in matter

1. Matter may be changed in two ways
   a. Physical change - refers to an alteration of the properties without the formation of any new substance, example, ice, a solid, melts and becomes a liquid
   b. Chemical change - one in which a new substance or substances are formed, having properties different from the original substances, example, soap is formed from the chemical reaction between an alkaline substance (potassium hydroxide) and an oil or fat

UNIT: CHEMISTRY - CONTINUED

TOPIC:

SCIENCE KNOWLEDGE - CONTINUED

L. Properties of matter

1. Refers to how we distinguish one form of matter from another
2. Physical properties - such a density, specific gravity, odor, color, taste
3. Density of a substance refers to its weight divided by it volume
4. Specific gravity of a substance is also referred to as its relative density, which means that substances are referred to as either more or less dense than water
5. Odor of a substance helps us to identify it in many instances
6. Color helps us identify many substances
7. Taste has helped us identify many substances

M. Chemical properties

1. Chemical properties of a substance refers to the ability of the substance to react, and the conditions under which it reacts
2. Phosphorous is a highly combustible substance used on the tips of matches
3. One of the chemical properties of wood is its ability to support combustion, used in the manufacture of matches

N. Properties of common elements, compounds, and mixtures

1. Oxygen (O)
   a. Most abundant element
   b. Found both free and in compounds
   c. Composes about half of the earth's crust
   d. Half of the rock
   e. One-fifth of the air
   f. 90% of the water
   g. Colorless, orderless, tasteless
   h. Gaseous substance
   i. Substances burn readily in oxygen
   j. Combining with other elements to form an infinite variety of compounds called oxides
2. Hydrogen (H)
   a. Colorless, odorless, tasteless gas
   b. Lightest element known
   c. Inflammable and explosive when mixed with air
   d. Found in chemical combination with oxygen in water and other elements in acids, bases, and organic substances, such as wood, meat, fish, sugar and butter

UNIT: CHEMISTRY - CONTINUED

TOPIC:

SCIENCE KNOWLEDGE - CONTINUED

3. Air
   a. Gaseous mixture that makes up the earth's atmosphere
   b. Odorless, colorless
   c. Consists of one part oxygen and four parts nitrogen
   d. Contains a small amount of carbon dioxide, ammonia, nitrates, and organic matter, essential to plant and animal life
4. Hydrogen peroxide (H_2O_2)
   a. Compound of hydrogen and oxygen
   b. Colorless liquid
   c. Characteristic odor
   d. Slightly acid taste
   e. Organic matter, such as silk, hair, feathers, and nails, are bleached by hydrogen peroxide
   f. 20-40 volume used as a lightening agent for hair
   g. 6-10 volume (3-5%) possesses antiseptic qualities
5. Oxidizing agents
   a. A substance that readily gives up its oxygen is known as an oxidizing agent
   b. Hydrogen peroxide releases oxygen, which oxides the hair pigment to a colorless compound
   c. Lightening agent is reduced and the pigment is oxidized
   d. When oxygen is taken away from any substance, it is known as reduction
   e. The substance that attracts the oxygen is the reducing agent
   f. Oxidation is always accompanied by reduction
6. Nitrogen (N)
   a. Colorless, gaseous element
   b. Found free in the air
   c. Constitutes part of the atmosphere
   d. Forms about four-fifths of the air
   e. Necessary to life because it dilutes the oxygen
   f. Found in nature chiefly in the form of ammonia and nitrates

O. Acidity and alkalinity

1. The pH of a liquid refers to its degree of acidity or alkalinity
2. The pH scale goes from 0-14
3. Cold wave solutions are alkaline up to 9.6
4. Neutralizers are always acid
5. Soaps up to 9.5 are satisfactory; higher, unsatisfactory

UNIT: CHEMISTRY - CONTINUED

TOPIC:

SCIENCE KNOWLEDGE - CONTINUED

6. Shampoos are 6-10
7. Depilatories, above 10
8. Acidity - anything below 7 is acidic, the lower the pH, the greater is the degree of acidity
9. Alkalinity - anything from 7-14 is alkaline, the higher the pH, the greater the degree of alkalinity

P. Chemistry of water - see Shampoo unit
Q. Chemistry of shampooing - see Shampoo unit
R. Conditions - see Shampoo unit
S. Permanent waving - see Permanent Waving unit
T. Chemical hair relaxing - see Chemical Hair Relaxing unit
U. Hair coloring - see Hair coloring unit
V. Hair lightening - see Hair lightening unit
W. Chemistry as applied to cosmetics

1. Physical and chemical classifications of cosmetics
    - a. Parodies
    - b. Solutions
    - c. Suspensions
    - d. Emulsions
    - e. Ointments
    - f. Soaps
2. Powders
    - a. Uniform mixture of insoluble substances
    - b. Properly blended, performed, and/or tinted
    - c. Mixing and sifting are used in the process of making powders
3. Solutions
    - a. Preparation made by dissolving a solid, liquid, or gaseous substance in another substance, usually liquid
    - b. Solute is a substance disolved in a solution
    - c. Solvent is a liquid used to dissolve a substance
    - d. Solutions are clear and permanent mixture of solute and solvent which do not separate on standing
    - e. Water is a universal solvent capable of dissolving more substances than any other solvent
    - f. Grain alcohol and glycerine are frequently used as solvents

UNIT: CHEMISTRY - CONTINUED

TOPIC:

SCIENCE KNOWLEDGE - CONTINUED

   g. Solute may be in solid, liquid, or gas, example, boric acid solution is a mixture of a solid in a liquid
   h. Miscible (mixable) - water, glycerine, and alcohol readily mix with each other
   i. Immiscible (unmixable) - water and oil do not mix
   j. Dilute solution contains a small quantity of the solute in proportion to the quantity of solvent
   k. Concentrated solution contains a large quantity of the solute in proportion to the quantity of solvent
   l. Saturated solution will not dissolve or take up more of the solute than it already holds at a given temperature

X. Suspensions - temporary mixtures of unsoluble powders in liquid, since the particles have a tendency to separate on standing, a thorough shaking is required before using
Y. Emulsions
 1. Emulsions (creams) are permanent mixtures of two or more immescible substances (oil and water) that are united with a binder (gum) or an emulsifier (soaps)
 2. Emulsions fall into two categories
   a. Oil-in-water (O/W) emulsions are made of oil droplets suspended in a water base, additional ingredients may be present to cause certain reactions in the hair, examples, permanent wave solutions, lighteners, neutralizers, and tints
   b. Water-in-oil (W/O) emulsions are formed with drops of water suspended in an oil base - thicker and oiler than O/W, examples, hair grooming cream, cleansing creams, and cold creams

Z. Ointments

 1. Ointments are semi-solid mixtures of organic substances (land, petroleum, and wax) and a medicinal agent (no water is present)
 2. Sticks are similar to ointments in that they are a mixture of organic substances (oils, waxes, and petroleum) that are poured into a mold to solidify, example, lipstick
 3. Pastes are soft, moist cosmetics, and have a thick consistency, they are bound together with the aid of gum, starch, and water (if oils and fats are present, water is absent)

SCIENCE KNOWLEDGE - CONTINUED

4. Mucilages are thick liquids containing either natural gums or synthetic gums, mixed with water, which are used for hair setting lotions

AA. Soaps

1. Soaps are compounds formed in a chemical reaction between alkaline substances and the fatty acids in oil or fat
2. Potassium hydroxide produces a soft soap
3. Sodium hydroxide forms a hard soap
4. A good soap does not contain an excess of free alkali and is made from pure oils and fats

BB. United State Pharmacopeio (U.S.P.)

1. A book defining and standardizing drugs
2. Alcohol is known as grain or ethyl alcohol
   - a. Colorless liquid
   - b. Antiseptic and disinfectant
   - c. 70% solution for santizing instruments
   - d. 60% solution can be applied to the skin
3. Alum is an aluminum potassium or ammonium sulphate, supplied in the form of crystals or powder
   - a. Has a strong astringent taste and action
   - b. Used in skin tonics and lotions
   - c. Powder form as a styptic which is applied to small cuts
4. Ammonia water is commercially used
   - a. Colorless liquid
   - b. Pungent, penetrating odor
   - c. By-product of the manufacture of coal gas
   - d. Readily dissolves grease
   - e. Used with hydrogen peroxide in lightening hair
5. Bichloride of mercury sold in tablet form - a very strong poison
6. Boric acid is a powder attained from sodium borate
   - a. Mild healing and antiseptic agent
   - b. Dusting powder
   - c. Cleansing lotion or eyewash

SCIENCE KNOWLEDGE - CONTINUED

7. Formaldehyde is a gas, but in water solution containing from 37-40% of gas by weight, it is known as formalin
    a. Disagreeable, pungent odor
    b. Irritating to the eyes, nose, and mouth
    c. Used to sanitize instruments
8. Glycerine is a sweet, colorless, odorless, syrupy liquid, formed by the decomposition of oils, fats, or molasses
    a. Skin softener
    b. Ingredient in cuticle oily facial creams, and lotions
9. Phenol (carbolic acid) is a coal tar derivative with acid reaction
    a. Glycerine is added to make it soluble in water
    b. 5% solution of phenol is used to sanitize metallic instruments
10. Potassium hydroxide sticks are dissolved in distilled water to form an alkaline solution
    a. Must be kept in sealed containers, as they tend to absorb moisture and deteriorate
    b. Used in making soaps and cosmetic creams
11. Quaternary ammonium compounds (quats) are a group of disinfectants used as sanitizing agents
12. Sodium bicarbonate (baking soda) is a precipitate made by passing carbon dioxide gas through a solution of sodium carbonate - used as a neutralizing agent
13. Sodium carbonate (washing soda) is prepared by heating sodium bicarbonate - used for water softening and in bath salts
14. Tincture of iodine is a 2% solution in alcohol - used to treat minor cuts and bruises
15. Witch hazel is a solution of alcohol and water containing an astringent agent extracted from witch hazel bark
16. Zinc oxide is a heavy white powder made by burning zinc carbonate with coal in a special furnace - used as a dusting powder and is an ointment for some skin conditions

CC. Cosmetics for body cleanliness

1. Products designed to cleanse and beautify the skin, hair, and nails

SCIENCE KNOWLEDGE - CONTINUED

2. Kinds of soap
    a. Good soap should be made from purified fats
    b. Should not contain excessive free alkali
    c. pH value above 9.5 tend to dry and roughen the skin
    d. A pH value of about 8 is considered normal for the skin

DD. Bath accessories include

1. Soaps
2. Bath salts
3. Bath powders
4. Bath oils
5. Body oils

EE. Deodorants and anti-perspirants

1. Few preparations can be classified separately
2. Deodorant is an agent that neutralizes or destroys disagreeable odors without suppressing the amount of perspiration
3. Anti-perspirant checks perspirations by its astringent action - the skin surrounding the pores swells, thereby temporarily closing the pores
4. Available in the form of creams, solutions, and powders

FF. Depilatories

1. Preparations used for the temporary removal of superfluous hair
2. Consist of alkali sulphides, calcium thioglycolate compounds, or resins and waxes
3. Chemical type has the odor of spoiled eggs and it softens and dissolves hair at the margin of the skin
4. Wax type is odorless and preferred for the face - melted wax hardens on the hairy surface, the patch is suddenly removed, and with it, the embedded hairs

GG. Cosmetics for skin and face

1. Creams
    a. Used for the skin or face

TOPIC:

SCIENCE KNOWLEDGE - CONTINUED

- b. Creams are either stable emulsions of oily and watery substances or an ointment base without water
2. Lotions
   - a. Used for hair and facial treatments
   - b. Available as a clear solution or as a suspension
   - c. Examples, cleansing lotions, astringent lotions, skin fresheners, witch hazel, and eye lotions
3. Powders
   - a. Face powders are a powder base, mixed with a coloring agent, and should have the following characteristics
   - b. Slip - having a smooth feel to the skin
   - c. Covering power - having easy and even spread in order to cover skin shine, skin defects, and enlarged pores
   - d. Adherency - having the ability to remain on the skin
   - e. Absorbency - retaining the perfume, distributing the color, and absorbing perspiration and sebaceous secretions
   - f. Bloom - imparting a velvet like appearance to the skin
   - g. Color and perfume - having a fragrant odor and uniform shade
   - h. Toilet powder - is used after bathing and shaving to relieve irritated surfaces
   - i. Cream powder - composed of a vanishing cream base, to which is added a face powder
   - j. Cake powder - has 3% tragacanth mucilage mixed with a face powder
   - k. Liquid powder - may contain an oil, zinc oxide, sterates, talc, perfume, and coloring which spreads quickly and uniformly and is a non-drying foundation

HH. Cosmetics for makeup cheek color (range)

1. Powder resembles the composition of a face powder except that a suitable color is added - recommended for oily skin
2. Paste is composed of fats and waxes - recommended for dry skin
3. Liquid is composed of a dye dissolved in a solution of water, glycerine, alcohol, and wax
4. Cream usually has a petroleum base and contains lanolin, fats, and waxes - recommended for dry skin

SCIENCE KNOWLEDGE - CONTINUED

5. Lip color (lipstick) comes in stick, cream, and liquid form
6. Eye makeup
    a. Eyebrow pencil consists of wax base with coloring added
    b. Mascara comes in cake, cream, and liquid form - used to darken lashes
    c. Eye shadow is usually a suspension of pigments in a fatty base - used to emphasize the beauty of the eyes

II. Miscellaneous cosmetics

1. Grease-paint is a mixture of fats, petroleum and a coloring agent - used for the atrical purposes
2. Cake or pancake makeup is available in a compressed or compact form
3. Muscle oil is an oil in which either leathin or cholesterol is dissolved - used around the eyes and over the throat - lubricates and softens the outer layer of the epidermis
4. Beauty clay is composed of substances (kaolin, bentomite, fuller's earth, or collordal clay) to which is added honey, glycerine, zinc oxide, caseins, oils, magnesium carbonate, starch, tragacanth gum powder, astringent, water, or milk, depending on the nature of the pack or mask
5. A beauty clay, or pack can exert a cleansing, softening, astringent refreshing, or stimulating action on the skin

JJ. Scalp lotions and ointments

1. Scalp lotions and ointments usually contain medicinal agents for the purpose of correcting a scalp condition and reconditioning the hair
    a. Lotions for an oily scalp should contain a high percentage of alcohol
    b. Lotions for a dry scalp should contain little or no alcohol - vegetable or animal oils should be the predominant ingredient
    c. Hair lotions are divided into groups to the purpose for which they are used
2. Some are used to regulate the activity of the oil glands of the scalp, others, to remove dandruff
    a. Dry scalp use olive oil
    b. Oily scalp use sweet oil and alcohol
    c. Skin and skin disorders - sulfur ointment containing precipitated sulfur

	SCIENCE KNOWLEDGE - CONTINUED	
	KK. Hair dressings are used to impart a gloss or fragrance to the hair, and to keep unruly or curly hair in a fixed position LL. Hair sprays are quick drying preparations that will keep the hair in place, control loose ends, and not detract from hair's natural sheen	

TOPIC:

TASK	THEORY	COMMUNICATION SKILLS	MATHEMATICS SKILLS	SCIENCE KNOWLEDGE	STUDENT OUTCOME
	What should be known about opening a beauty salon A. Location 1. Population large enough to support the salon 2. Located near other active business places such as restaurants, department stores, or supermarkets 3. Be visible - salon should be clearly visible and "eye catching" to attract the attention of people walking or driving by 4. Avoid competition - it is better to locate in an area where you have the only salon 5. Study the area a. For potential patrons b. Income and buying habits of population c. Talk to other business owners 6. Study lease a. Understand all provisions that pertain to the landlord and to	A. Outlining and note taking B. Writing skills (workbook) C. Oral communication D. Test taking skills E. Spelling F. Inferencing G. Vocabulary H. Definitions	A. Addition of whole numbers B. Subtraction of whole numbers C. Multiplication D. Fractions (mixing chemicals) E. Addition and subtraction F. Decimal fractions G. Square measurement H. Weight and volume I. Finance 1. Payroll 2. Checking accounts 3. Record keeping 4. Time records J. Purchases 1. Sales discount 2. Sales commission		The student will demonstrate a basic knowledge of business principles, bookkeeping, business laws, insurance, and salesmanship related to opening and operating a beauty salon on a written test

THEORY - CONTINUED

the tenant before signing the lease
    b. Lease should provide for alterations that must be made by the landlord
    c. Have a lawyer help with your negotiations
7. Parking facilities
    a. Consider ample parking facilities
    b. If possible, locate near a bus line, for people who do not drive
    c. If salon is opened in the evening, the area should be well lighted
    d. Written agreements for alterations will prevent disputes over who must pay for what
8. Planning the physical layout of a salon takes a considerable amount of time in order to achieve maximum efficiency and economy
9. What the salon should have
    a. Maximum efficiency of operation
    b. Adequate aisle space
    c. Flow of operational services toward the reception room
    d. Enough space for each piece of equipment
    e. Furniture, fixtures, and equipment chosen on the basis of cost, durability, utility, and appearance - the purchase of standard and guaranteed equipment is a worthwhile investment
    f. A color scheme that is restful and flattering
    g. A dispensary
    h. Adequate storage space
    i. A clean restroom containing toilet basin
    j. Good plumbing and sufficient lighting for satisfactory services
    k. Good ventilation, air conditioning, and heating
10. The reception area
    a. An attractively decorated reception area can be one of your promotional tools
    b. It also can attract the attention of people who pass by

B. Regulations, business laws, and insurance

1. Local regulations usually cover building renovations (local building code)
2. Federal law covers social security, unemployment, compensation, or insurance, and cosmetics and luxury tax payments

THEORY - CONTINUED

3. State laws cover sales taxes, licenses, and workman's compensation
4. Income tax laws are covered by both the state and federal governments
5. Insurance covers malpractice, premises liability, fire, burglary and theft, and business interruption

C. Advertising

1. Plan on advertising budget (about 3% of the gross income)
2. Use newspaper advertising as the first medium
3. Use direct mail to create a more intimate contact with the reader
4. Classified advertising in the yellow pages of your telephone book is comparatively inexpensive
5. Radio advertising is more expensive, but is very effective
6. Television is dramatic, but expensive medium of advertising
7. A window display acts as a salesman to every passerby
8. Personal public appearances are excellent advertising, especially at women's and men's clubs, church functions, political gatherings, charitable affairs, and television talk shows

D. Business operation and personnel management

1. Inexperience in dealing with the public and with employees
2. Not enough capital to carry the business through until established
3. Poor location, and too high overhead expenses
4. Lack of proper basic training in the field
5. Business neglect and careless bookkeeping methods -
    a. Sufficient investment capital
    b. Efficiency of management
    c. Cooperation between management and employees
    d. Good business procedures
    e. Trained and experienced personnel in the salon

E. Create goodwill

1. Favorable impressions are made when the cosmetologist knows her work and merchandise

UNIT: SALON MANAGEMENT - CONTINUED

TOPIC:

THEORY - CONTINUED

2. The keynote to patron goodwill is satisfactory service
3. Efficient service will create goodwill, confidence, and satisfaction

F. Allocation of money

1. The figures are suggested as a general guide
2. Average expenses for salons
    a. Salaries, commissions 53.5%
    b. Rent 13%
    c. Supplies 5%
    d. Advertising 3%
    e. Depreciation 3%
    f. Laundry 1%
    g. Cleaning 1%
    h. Light and power 1%
    i. Repairs 1.5%
    j. Insurance .75%
    k. Telephone .75%
    l. Miscellaneous 1.5%
    m. Total expenses 85%
    n. Net profit 15%

G. Booking appointments

1. Must be done with care
2. Scheduling can make the difference between success and failure
3. Services are sold in terms of time on the appointment page

H. Receptionist

1. Must have a pleasing voice
2. Personality
3. An attractive appearance
4. Knowledge of the various beauty services and how much time they require
5. Unlimited patience with both patrons and salon personnel

UNIT: SALON MANAGEMENT - CONTINUED

TOPIC:

THEORY - CONTINUED

I. Good business administration

1. Keeping of a simple and efficient record system
2. Bookkeeping means keeping an accurate record of all income and expenses
3. The assistance of an accountant is recommended
4. Retain check stubs, cancelled checks, receipts, and invoices
5. Proper business records are necessary to meet the requirements of local, state, and federal laws regarding taxes and employees
6. All business transactions must be recorded in order to maintain proper records for the following reasons
   a. For efficient operation of the salon
   b. For determining income, expenses, profit or loss
   c. For proving the value of the salon to prospective buyers
   d. For arranging a bank loan
   e. For such reports as income tax, social security, unemployment and disability insurance, wage and hour law, accident, compensation, and labor tax

J. Daily records

1. Make comparisons with other years
2. Detect any changes in demands for different services
3. Order necessary supplies
4. Check on the use of materials according to the type of service rendered
5. Control expenses and waste
6. Keep daily sales slips, appointment book, and a petty cash book for at least six months
7. Payroll book, cancelled checks, monthly and yearly records are usually held for at least seven years
8. Service and inventory records also are important to keep
9. Sales records help to maintain a perpetual inventory which can be used to
   a. Prevent overstocking
   b. Prevent running short of supplies needed for services
   c. Help in establishing the net worth of the business at the end of the year

THEORY - CONTINUED

K. Service records

1. Should contain name and address of the patron, date, amount charged, product used, and results obtained
2. Keep a running inventory of all supplies
    a. Those to be used in the business are consumption supplies
    b. Those to be sold are retail supplies

L. Business law for the salon

1. A salon may be owned and operated by an individual, a partnership, or a corporation
2. Individual ownership
    a. The proprietor is owner and manager
    b. The proprietor determines policies and makes decisions
    c. The proprietor receives all profits and bears all losses
3. Partnership
    a. More capital is available for investment
    b. The combined ability and experience of each partner make it easier to share work and responsibilities and to make decisions
    c. Profits are equally shared
    d. Each partner assumes each others' unlimited liability for debts
4. Corporation
    a. A charter is obtained from the state
    b. A corporation is subject to taxation and regulation by the state
    c. The management is in the hands of a board of directors who determine policies and makes decisions in accordance with the corporation's charter
    d. The dividing of profits is proportionate to the number of shares owned by each stockholder
    e. The stockholder is not personally responsible for losses
5. Before buying or selling an established salon
    a. A written purchase and sale agreement should be formulated
    b. The buyer and seller should make and sign a complete statement of inventory
    c. If there is a transfer of chattel mortgage, notes, lease, and bill of sale, an investigation should be made to determine if there is any default in the payment of debts
    d. Consult your lawyer for additional guidance

UNIT: SALON MANAGEMENT - CONTINUED

TOPIC:

THEORY - CONTINUED

6. Agreement to buy salon
    a. Correct identity of owner
    b. True representations concerning the value of the salon
    c. Use of salon's name
    d. An understanding that the seller will not compete with the prospective owner within a reasonable distance
7. Protection in making a lease
    a. Secure exemption of fixtures or appliances that may be attached to the store, so that they can be removed without violating the lease
    b. Insert into the lease an agreement relative to necessary renovations
    c. Secure an option from the landlord to assign the lease to another perso
8. Protection against fire, theft, and lawsuits
    a. Employ honest and able employees and keep premises securely locked
    b. Follow safety precautions
    c. Liability, fire, malpractice, and burglary insurance should be obtained
    d. Do not violate the medical practice law of your state
    e. Become thoroughly familiar with all laws governing cosmetology and with the sanitary codes of your city and state
    f. Keep accurate records
    g. Ignorance of the law is no excuse for its violation
9. Summary - important things to consider when going into business
    a. Capital
    b. Organization
    c. Banking
    d. Selecting location
    e. Decorating and floor plan
    f. Equipment and supplies
    g. Advertising
    h. Legal
    i. Bookkeeping system
    j. Cost of operation
    k. Management
    l. Office administration
    m. Insurance
    n. Methods of payment
    o. Compliance with labor laws
    p. Ethics

THEORY - CONTINUED

   - q. Compliance with state
   - r. Cosmetology law
   - s. Licensing

M. The use of the telephone in the salon

1. Make or change appointments
2. Go after new business, or strayed patrons
3. Remind patron of needed service
4. Answer questions
5. Adjust complaints
6. Receive messages
7. Order equipment and supplies
8. Business in the salon can be promoted effectively over the phone, providing there is good planning and good telephone usage

N. Basic greeting rules

1. Display an interested, helpful attitude
2. Answer all calls promptly
3. Practice giving all necessary information to the caller
4. Be tactful
5. Address people by their last names
6. Avoid making side remarks during a call
7. Let the caller end the conversation
8. Your voice and speech
   - a. Clear speech
   - b. Correct speech
   - c. Pleasing tone of voice

O. Selling in the beauty salon

1. Selling principles
   - a. Be familiar with the benefits of each service and product
   - b. Adapt the approach and selling method to the needs of each patron
   - c. Be self-confident

THEORY - CONTINUED

d. Stimulate attention, interest, and desire
e. Never misrepresent your service or product
f. Use tact in handling a patron
g. Do not be negative
h. To sell a product or service, deliver a sales talk in a relaxed, friendly manner, and, if possible, demonstrate its use
i. Recognize the right moment to close any sale

2. Types of patrons and ways of handling them
    a. Shy and timid - make patron feel at ease, lead the conversation
    b. Talkative type - be a good listener - switch conversation to patron's beauty needs
    c. Nervous type - does not want much conversation - get patron started and finished as fast as possible
    d. Over-cautious type - explain everything in detail
    e. Conceited "know-it-all" type - agree with patron and cater to patron's vanity
    f. Teenager - do not oversell, give advice on makeup and hair care
    g. Old-timer (60 and over) - be extra courteous, suggest styles and services more becoming to a mature woman
3. Personality in selling
    a. Greeting the patron
    b. Personal magnetism
    c. Optimism
    d. Self-assertiveness
    e. Initiative
    f. Cheerfulness
    g. Tact
    h. Tact
    i. Sincerity
    j. Ability to smile
4. Sales psychology
    a. Motives for buying
    b. Help patron make decision
    c. Use attractive displays
    d. Describe benefits of beauty service
    e. Do not underestimate patron

THEORY - CONTINUED

P. First aid

1. Abrasions - apply antiseptic
2. Burns - temporarily apply ice or cold water, get immediate attention by a physician
3. Electric shock - loosen clothing, remove patron to a cool place - head should be raised, apply artificial respiration, call ambulance
4. Heat exhaustion - loosen clothing, and remove patron to cool place, keep patron lying down for several hours
5. Nose bleed - loosen the collar and apply pads saturated with cool water to the face and back of the neck
6. Foreign body in the eye - if this is under the lower lid, pull the lid down while the patron looks up, remove matter with corner of a clean moistened handkerchief - if it is under the upper lid, pull the lid down over the eye and the speck should then be apparent when the patron opens his or her eye again, remove in the same way as above
7. Fainting - if there is a sign of fainting, and before it actually occurs, have the patron hold his or her head between the knees
    a. Treatment for fainting - loosen all tight clothing, being sure there is fresh air in the room, and placing the patron in a reclining position with the head slightly lower than the body
    b. If the patron is conscious, hold aromatic spirits of ammonia near his or her nose or offer stimulants, such as hot coffee or tea
    c. If the patron is unconscious, apply cold applications to the face, chest, and over the heart
8. Epileptic fit - call for immediate medical attention
    a. Emergency treatment consists of lying patron on the side and fixing a wad of cotton between the teeth to prevent biting of the tongue
    b. If the patron falls into a deep sleep after the attack, he or she should not be disturbed, but allowed to awaken naturally

UNIT: THE HAIR AND DISORDERS OF THE SCALP AND HAIR

TOPIC:

TASK	THEORY	COMMUNICATION SKILLS	MATHEMATICS SKILLS	SCIENCE KNOWLEDGE	STUDENT OUTCOME
		A. Outlining and note taking B. Writing skills (workbook) C. Pronunciation D. Vocabulary E. Oral communication F. Test taking skills G. Spelling H. Definitions 1. Hirsuties or hypertrichosis - superfluous or unusual amounts of hair (faces of women) 2. Barba - the face 3. Capilli - the head 4. Cilia - the eyelashes 5. Supercilia - the eyebrows 6. Albino - person born with white hair, accompanied by no marked pigment coloring in the skin or irises of the eyes 7. Hair stream - a result of the follicles sloping in the same direction as hair sloping 8. Whorl - hair that forms a swirl effect as in crown 9. Cowlick - a taft of hair standing up	A. Angles B. Percentages C. Measurements - inches D. Ratio	A. Hair 1. Appendage of the skin 2. Slender thread-like growth 3. Absence of nerves 4. Study of hair is called trichology 5. Adornment 6. Protection from heat, cold, and injury B. Composition of hair 1. Composed of protein called keratin 2. Composition varies with its color 3. Average hair is composed of a. 50.65% carbon b. 6.36% hydrogen c. 17.14% nitrogen d. 5.0% sulfur e. 20.85% oxygen C. Division of hair a. The hair root and hair shaft b. Root is the portion of the hair structure located beneath the skin surface c. Shaft is the portion of the hair structure extending above the skin's surface	A. The student will know the composition and divisions of the hair on a written test B. The student will know the different structures within the hair root and hair follicle on a written test C. The student will know the facts relating to hair structure, growth, and distribution on a written test D. The student will know the theories relating to the life and replacement of hair on a written test E. The student will know the causes of the changes in hair color on a written test

SCIENCE KNOWLEDGE - CONTINUED

D. Structures associated with hair root
  1. Hair follicle is a tube-like depression in the skin that encases the hair root
     a. For every hair there is a follicle
     b. Varies in depth
     c. One or more oil glands are attached
     d. Funnel-shape of follicles are breeding places for germs and accumulation of sebum and dirt
     e. Follicle is set at an angle so the hair above the surface has a natural flow (sometimes called hair stream)
  2. Hair bulb
     a. Club-shaped structure forming the lower part of the hair root
     b. The lower part of the hair bulb is hollowed out to fit over and cover the hair papilla
  3. Hair papilla
     a. Cone-shaped and located at the bottom of the hair follicle which fits into the hair bulb
     b. Contains blood and nerve supply
     c. Papilla nourishes the hair bulb
     d. Produces hair cells
     e. Hair cannot grow without the papilla

E. Structures connected to the hair follicle

  1. Arrector pili
     a. Involuntary muscle
     b. Attached to the underside of a hair follicle
     c. Fear or cold contracts it, causes hair to stand up
     d. Eyelash and eyebrow hairs lack arrector pili muscles
  2. Sebaceous glands (oil)
     a. Consist of sacular structures
     b. Ducts are connected to hair follicles
     c. Secretion of oily substance (sebum)
     d. Sometimes overproduce causing oily dandruff
     e. Production of sebum influenced by five factors - diet, blood circulation, emotional disturbances, stimulation of endocrine glands, and drugs

SCIENCE KNOWLEDGE - CONTINUED

F. Hair structure

1. Shapes of hair generally in three shapes
    a. Straight hair is usually round
    b. Wavy hair is usually oval
    c. Curly or kinky hair is almost flat
2. The structure of the hair is composed of cells arranged in the following three layers
    a. Cuticle - outside horny layer, composed of transparent, overlapping, protective scale-like cells which are raised by chemicals so that solutions can enter into the hair cortex (cuticle protects the inner structure of the hair)
    b. Cortex - gives strength and elasticity and also contains pigment that gives the hair color
    c. Medulla - the pith or marrow of the hair shaft, and is composed of round cells (may be absent from very fine hair)

G. Hair distribution

1. Hair is found all over the body except on the palms, soles, lips, and eyelids
2. Three types of hair
    a. Long hair
        1.1 Protects scalp against sun's rays
        1.2 Protects against injury
        1.3 Adornment to the head
        1.4 Pleasing frame for the face
        1.5 Soft, long hairs also grow in the armpits of both sexes and the faces of men
    b. Short or bristly hair
        1.1 Eyebrows and eyelashes
        1.2 Adds beauty and color to face
        1.3 Eyebrows divert sweat from the eyes
        1.4 Eyelashes protect eyes from dust particles and light glare
    c. Lanugo hair
        1.1 Fine, soft, downy hair
        1.2 Cheeks, forehead, and nearly all other areas of the body
        1.3 Helps in the efficient evaporation of perspiration

UNIT: THE HAIR AND DISORDERS OF THE SCALP AND HAIR - CONTINUED

TOPIC:

SCIENCE KNOWLEDGE - CONTINUED

H. Hair growth

1. Hair cycle
    a. Growth
    b. Fall
    c. Replacement
    d. Average growth is ½" per month
    e. Growth is more rapid between the ages of fifteen and thirty
    f. Growth declines sharply between the ages of fifty and sixty
2. Hair growth influenced by
    a. Seasons of the year
    b. Nutrition and hormones
    c. Health
3. Climatic conditions will affect the hair in the following ways
    a. Moisture will deepen natural wave
    b. Cold air causes hair to contract
    c. Heat will cause hair to swell and absorb moisture
4. Hair growth is not increased by any of the following
    a. Shaving, trimming, cutting
    b. Applications of ointments or oils
    c. Hair does not grow after death
5. Normal hair shedding
    a. Hair is shed daily
    b. New hair replaces fall out
    c. Daily shedding is about fifty to eighty hairs
    d. Eyebrows and eyelashes are replaced every four to five months

I. Life and density of hair

1. Average life span is two to four years
2. Other factors
    a. Sex
    b. Age
    c. Type of hair
    d. Heredity
    e. Health
3. Average area for a head is about 120 square inches
4. Average of 1,000 hairs to a square inch

SCIENCE KNOWLEDGE - CONTINUED

J. Color of hair

  1. Cortex contains coloring matter (melanin or pigment)
  2. Probably derived from the color-forming substances in the blood
  3. The color of hair, light or dark, depends on the amount of pigment it contains

K. Greying of hair

  1. Absence of hair pigment in cortical layer
  2. Usually a result of the natural aging process
  3. Greying also can be a result of serious illness, emotional tensions, or nervous shock
  4. Premature greying is a result of a defect in pigment formation occuring at birth

L. Hair analysis

  1. Sight - observe the hair
  2. Touch - a sense of touch must be developed for judging the hair
  3. Hearing - listen to what the patron tells you about his or her hair, health problems, reactions to cosmetics and medications he or she may be taking
  4. Smell - unclean hair and certain scalp disorders will create an odor

M. Texture, porosity and elasticity - see unit on Permanent Waving
N. Disorders of the scalp - see unit on Scalp and Hair Care for Dandruff and Alopecia
O. Contagious disorders - see unit on Bacteriology
P. Non-contagious disorders - see unit on Scalp and Hair Care

  1. Trichorrhexis nodosa (knotted hair) - dry, brittle condition with the formation of nodular swellings along the hair shaft - hair breaks easily
  2. Monilethrix - technical term for beaded hair - hair breaks between the beads
  3. Fiagilitas crinium - technical term for brittle hair - hair may split at any part of their length

UNIT: HONING AND STROPPING

TOPIC:

TASK	THEORY	COMMUNICATION SKILLS	MATHEMATICS SKILLS	SCIENCE KNOWLEDGE	STUDENT OUTCOME
I. How to hold the razor A. Rest index finger on top of the side part of the shank B. Rest ball of thumb at the joint C. Place second finger back of the razor near the edge of the shank D. Fold remaining fingers around the handle to permit easy turning of the razor II. Perform steps in honing III. Test razor edge IV. Perform steps and technique used in stropping	A. Honing 1. The process of sharpening a razor blade on a hone 2. Prepare hone for honing a. Keep razor hone at room temperature b. May be moistened with water or lather, or kept dry (depends on type of hone) c. When in use, the hone should be kept perfectly flat d. Sufficient space for free arm movements e. How to hold the razor 3. How to hold the hone a. Make sure that the fingertips do not project above the hone or it will cut them b. Turning the razor c. Second stroke in honing d. Completing the second stroke e. Repeat strokes	A. Outlining and note taking B. Vocabulary C. Pronunciation D. Spelling E. Test taking skills F. Oral communication G. Writing skills (workbook)			A. The student will know the method of honing and stropping and how to properly care for strops on a written test B. The student will be able to demonstrate honing and stropping on a performance test

THEORY - CONTINUED

- f. Testing razor on moistened thumb nail
- g. Magnified razor edge

4. To test the razor edge
   - a. A perfect or keen edge has fine teeth and tends to dig into the nail with a smooth steady grip
   - b. A blunt or dull razor edge passes over the nail smoothly, without any cutting power
   - c. A coarse razor edge digs into the nail with a jerky feeling
   - d. A rough or overhoned edge has large teeth which stick to the nail and produce a harsh, grating sound
   - e. A nick in the razor gives the feeling of a slight gap or unevenness in the draw
   - f. Correcting an overhoned razor
     - 1.1 Draw the razor backward in a diagonal line across the hone, using the same movement and pressure as in regular honing
     - 1.2 One or two strokes each way will usually remove the rough edge
     - 1.3 This is called back honing
5. Care of the hone
   - a. After use, wipe clean and cover it
   - b. Remove all adhering steel particles
   - c. Whenever a dry hone has been used, rub its surface with water and pumice stone, wipe clean and keep covered
   - d. If a new hone is very rough, rub its surface with water and pumice stone
   - e. Follow manufacturer's instructions

B. Stropping

1. Stropping is to smooth and shape the razor's edge into a keen cutting implement
2. After being honed, the razor seldom needs any stropping on the canvas, instead, the honed razor is stropped directly over the surface of the leather strops
3. The time to use the canvas strop is when the razor develops a smooth edge from continued use
4. The technique of stropping
   - a. Turning the razor
   - b. First stroke

UNIT: HONING AND STROPPING - CONTINUED

TOPIC:

THEORY - CONTINUED

   - c. Second stroke
   - d. Final testing of razor on moistened tip of thumb, prior to shaving

5. Care of strops
   - a. Do not fold strops
   - b. Keep it suspended to a swivel, or laid flat
   - c. Apply strop dressing when it appears rough
   - d. A strop is sanitary if it is kept clean
   - e. Accumulated grit is removed from a canvas strop by rubbing it with lather
   - f. To remove imbedded dirt, the leather strop is softened with lather and then scraped with the back side of the shear blade

UNIT: SHAVING

TOPIC:

TASK	THEORY	COMMUNICATION SKILLS	MATHEMATICS SKILLS	SCIENCE KNOWLEDGE	STUDENT OUTCOME
A. Practice opening and closing the razor B. Perform the free hand position and stroke for the six shaving areas C. Perform the back hand position and stroke in the four shaving areas D. Perform the reverse free hand position and stroke in an upward direction E. Perform reverse back hand position and stroke F. Prepare patron for shaving G. Lather the face H. Steam the face I. Shave areas number one through eight and wipe off razor J. Shave area number nine and wipe off razor K. Shave areas number ten through fourteen and wipe off razor L. Shave a second time M. Treat cuts N. Complete shaving steps O. Trim mustache	A. Fundamentals of shaving 1. Texture of the hair 2. Grain of the beard 3. Sensitivity of the skin to the razor edge, shaving cream, hot towels, and astringent lotion 4. Hot towels should not be used when skin is chapped or blistered from heat or cold 5. A person having any infection of the beard must not be shaved as this may be the means of spreading the infection B. Four standard shaving positions and strokes 1. Free hand position and stroke 2. Back hand position and stroke 3. Reverse free hand position and stroke 4. Reverse back hand position and stroke C. Under each of the standard shaving positions and strokes, considerations should be given to the following:	A. Outlining and note taking B. Vocabulary C. Spelling D. Test taking skills E. Oral communication F. Writing skills (workbook)	Diagrams of shaving areas		A. The student will know the general principles of shaving on a written test B. The student will be able to demonstrate the four standard shaving positions and strokes C. The student will be able to demonstrate lathering and shaving D. The student will be able to demonstrate the complete procedure for shaving the face

UNIT: SHAVING - CONTINUED

TOPIC:

TASK - CONTINUED

P. Perform wrapping a towel around the hand
Q. Perform procedure for a neck shave

THEORY - CONTINUED

1. When to use a particular shaving stroke
2. How to hold the razor for each stroke
   a. Position of right hand with razor
   b. Position of left hand
   c. How to stroke the razor

D. Opening and closing the razor - when closing the razor, be careful that the cutting edge does not strike the handle
E. Shaving exercise number one - free hand position and stroke

1. when to use the free hand stroke
2. How to hold the razor
3. How to stroke the razor

F. Shaving exercise number two - back hand position and stroke

1. When to use the back hand stroke
2. How to hold the razor
3. How to stroke the razor

G. Shaving exercise number three - reverse free hand position and stroke

1. When to use the reverse free hand stroke
2. How to hold the razor
3. How to stroke the razor

H. Shaving exercise number four (not frequently used) - reverse back hand position and stroke

1. When to use the reverse back hand stroke
2. How to hold the razor
3. How to stroke the razor

I. Shaving exercise number five - How to prepare a patron for shaving
J. Shaving exercise number six - How to prepare the face for shaving

1. Lathering and steaming the face are very important steps before shaving
2. Lathering the face serves different purposes
   a. Cleans the face by dislodging dirt and foreign matter

UNIT: SHAVING - CONTINUED

TOPIC:

THEORY - CONTINUED

- b. Softens the hair and holds it in an upright position
- c. Affords a smooth, flat surface for the razor to glide over

3. Steaming the face is helpful for different reasons
   - a. Softens the cuticle or outer layer of the hair
   - b. Provides lubrication by stimulating the action of the oil glands
   - c. Soothes and relaxes the patron
   - d. Follow procedure for lathering and steaming

K. Shaving exercise number seven - positions and strokes of shaving

1. Shaving area number one - free hand stroke
2. Shaving area number two - back hand stroke
3. Shaving area number three - free hand stroke
4. Shaving area number four - free hand stroke
5. Shaving area number five - reverse free hand stroke
6. Shaving area number six - back hand stroke
7. Shaving area number seven - back hand stroke
8. Shaving area number eight - free hand stroke (wipe off razor)
9. Shaving area number nine - back hand stroke (wipe off razor)
10. Shaving area number ten - reverse free hand stroke (wipe off razor)
11. Shaving area number eleven - free hand stroke
12. Shaving area number twelve - free hand stroke
13. Shaving area number thirteen - reverse free hand stroke (great care must be taken that the skin over the Adam's apple is not cut)
14. Shaving area number fourteen - reverse free hand stroke (wipe off razor)
15. Close shaving - remove any rough or uneven spots
16. Accidental cuts in shaving
17. Final steps in shaving

L. Shaving exercise number nine - Wrapping a towel around the hand

M. Shaving exercise number ten - neck shave - points to remember in shaving

1. Always use a forward shaving movement with point of blade leading
2. The experienced barber-stylist will observe the hair slope and shave with - never against it
3. A heavy growth of beard requires care in the lathering process and special technique in the use of the razor

UNIT: SHAVING - CONTINUED

TOPIC:

THEORY - CONTINUED

4. The lather should not be scattered carelessly all over the face
5. The fingers of the left hand should be kept dry in order to grasp and stretch the skin and hold it firmly
6. Hot towels should not be used on excessively sensitive skin, nor should they be used when the skin is chapped or blistered from cold or heat
7. Take special precautions in shaving, especially beneath the lower lip, lower part of the neck, and around the Adam's apple, as these parts of the face and neck are usually the most tender and sensitive, and are easily irritated by very close shaving

N. Eleven reasons why a patron may find fault with a shave

1. Offensive body odor, foul breath, or tobacco odor
2. Dull or rough razors
3. Unclean hands, towels, or shaving cloth
4. Cold fingers
5. Heavy touch of hand
6. Poorly heated towels
7. Lather which is either too cold or too hot
8. Sticking your fingers in patron's mouth
9. Glaring lights overhead
10. Unshaven hair patches
11. Scraping the skin and close shaving